

Digitized by the Internet Archive
in 2011 with funding from
CARLI: Consortium of Academic and Research Libraries in Illinois



Southern Illinois University Carbondale

1998-2000 GRADUATE CATALOG

<http://www.siu.edu/gradschl>

2nd Floor Spec. Col
Reading Room Copy
DO NOT REMOVE

Southern Illinois University Carbondale

1998–2000 Graduate Catalog

40/1



<http://www.siu.edu/gradschl>

Southern Illinois University Carbondale (USPS 506-080)

Volume 40 Number 1 August 1998

Periodicals postage paid at Carbondale, Illinois 62901.

Published by Southern Illinois University, Carbondale, Illinois 62901,
four times per year, in August, September, October, and November.

Subscription price \$4 per issue.

POSTMASTER: Send address changes to Publications Office,
Southern Illinois University, Carbondale, IL 62901-6522.

This Catalog

This catalog supersedes Volume 38, Number 1, of the *Southern Illinois University at Carbondale Bulletin*.

Quick Index

University Calendar	viii
The University	1
Graduate Degrees Offered	2
Degree Requirements	5
Application Procedure	12

Quick Index

Financial Assistance	21
Tuition and Fees	28
Academic Programs, Graduate Faculty, and Courses	77

Graduate School Phone: 618-536-7791, WWW: <http://www.siu.edu/gradschl>

SIUC complies fully with applicable federal and state nondiscrimination and equal opportunity laws, orders, and regulations in admission, employment, and access to University programs and activities. Complaints or requests for further information should be directed to the University Affirmative Action Office, Davies 153, 618-453-1196.

SIUC is committed to creating and maintaining a university community free from all forms of sexual harassment. Copies of the Sexual Harassment Policy are available from the various sexual harassment advisement offices, (see University Policy Concerning Sexual Harassment in Chapter One). In addition, the policy can be accessed at www.siu.edu/~affact.

This publication provides information about Southern Illinois University, Carbondale. Primary attention is given to its academic programs, rules and regulations, and procedures. Students will be subject to the published requirements in effect when they are admitted to the Graduate School. Students beginning graduate work during the period of time from the start of summer session 1998 through spring semester 2000 are subject to the academic requirements of the Graduate School as specified in this publication. These requirements may be superseded by future publications of the Graduate Catalog. If the requirements are subsequently changed, students may elect either to meet the requirements in force in their particular degree programs immediately prior to the change, or to meet the new requirements. If they elect the former option they shall be guaranteed a minimum period of time from the date that the program requirements were changed within which minimum period they will be permitted to complete the old degree requirements.

This minimum period shall be determined by the department or other degree-program unit, subject to the following two constraints. First, the minimum period prescribed by the department may not exceed the standard Graduate School limitation that credit applied toward fulfillment of requirements for the master's degree must have been earned within a six-year period preceding the completion of the degree, and that doctoral students must complete degree requirements

within five years after admission to candidacy. Second, the minimum period shall encompass no less than two years for master's degree students and three years for doctoral students, with the exception that students in the last stage of their degree work when requirements change (a master's student who has completed all requirements except the thesis or research report and the final examination or a doctoral student who has been admitted to Ph.D. candidacy) shall not be subject to the new requirements but may complete their degrees within the standard Graduate School limitations stated above. Students who elect to follow old requirements, but do not complete their work within the minimum period prescribed by the department, shall, unless they were in the last stage of their degree work when requirements changed, be subject to requirements in force at the time they complete their degrees, and shall be subject to the standard Graduate School limitations described above. The University reserves the right to change information contained herein on matters other than curricular requirements without notice when circumstances warrant such action.

Table of Contents

<i>Board of Trustees and Officers of Administration</i>	vii
<i>University Calendar</i>	viii
<i>Deans</i>	x
1 The Graduate School 1	
Southern Illinois University	1
The Graduate School	2
Graduate Degrees Offered	2
Student Responsibility	4
Degree Requirements	5
Master's Degree Program	5
Doctoral Degree Program	8
General Regulations and Procedures	12
Application for Graduate Study	12
Registration	15
Additional Information	19
Financial Assistance	21
Tuition and Fees	28
University Employees	33
Other Types of Registration in Graduate Courses	34
Student Conduct Code	35
Academic Grievances Policy/Procedures	52
Retention	57
Graduation	57
Release of Student Information and Issuance of Transcripts	58
University Policy Concerning Sexual Harassment	59
Academic Resources	61
Facilities and Services	71
2 Academic Programs, Graduate Faculty, and Courses 77	
Accountancy	78
Administration of Justice	83
Agribusiness Economics	87
Animal Science	90
Food and Nutrition	93
Anthropology	95
Applied Linguistics	102
Art	102
Behavior Analysis and Therapy	107
Biological Sciences	107
Business Administration	109

Center for the Study of Crime, Delinquency, and Corrections	122
Chemistry	122
Cinema and Photography.....	128
Civil Engineering.....	132
Communication Disorders and Sciences	136
Computer Science	136
Creative Writing.....	140
Curriculum and Instruction.....	140
Economics.....	150
Doctoral Program in Education	156
Educational Administration	159
Educational Psychology.....	163
Electrical Engineering.....	169
Engineering.....	174
English	178
Finance	186
Food and Nutrition	186
Foreign Languages and Literatures	186
Forestry	194
Geography	200
Geology	206
Health Education.....	212
Higher Education.....	217
History.....	220
Interactive Multimedia	227
Journalism	229
Linguistics.....	235
Management	242
Manufacturing Systems	242
Marketing.....	244
Mathematics.....	244
Mechanical Engineering.....	253
Mining Engineering.....	258
Molecular Biology, Microbiology and Biochemistry.....	261
Music	267
Pharmacology.....	273
Philosophy.....	283
Physical Education	289
Physics.....	291
Physiology	293
Plant Biology.....	301
Plant and Soil Science	310
Political Science	315
Psychology.....	329
Public Administration	340
Radio-Television.....	340
Recreation	340
Rehabilitation Institute.....	343
Behavior Analysis and Therapy.....	344
Communication Disorders and Sciences.....	345
Rehabilitation Administration and Services	351
Rehabilitation Counseling	353
Doctor of Rehabilitation	355
Social Work	360
Sociology	365
Special Education	372
Speech Communication	376

Teaching English to Speakers of Other Languages	384
Telecommunications	384
Theater	388
Workforce Education and Development	392
Zoology	398
Other Graduate Faculty	405
College of Applied Sciences and Arts	405
Library Affairs	406
School of Medicine	406
Other Graduate Courses.....	406
Agriculture	406
Engineering Technology.....	407
Industrial Technology	408
Medical Education Preparation	408
Science	409
Women's Studies	409
Index	411

Board of Trustees and Officers of Administration

Board of Trustees of Southern Illinois University

Term Expires

A. D. Van Meter, Jr., <i>Chair</i> , Springfield	1999
Molly D'Esposito, <i>Vice Chair</i> , Winnetka	2001
George T. Wilkins, Jr., <i>Secretary</i> , Edwardsville	2003
John Brewster, Marion	2003
William R. Norwood, Carbondale	2001
Harris Rowe, Jacksonville	2001
Celeste M. Stiehl, Belleville	1999
Patrick Kelly, (Student Trustee) Carbondale	1998
Joe Arana, (Student Trustee) Edwardsville	1998
Peter Ruger, <i>General Counsel</i>	
Sharon Holmes, <i>Executive Secretary of the Board of Trustees</i>	
Donald W. Wilson, <i>Board Treasurer and Vice President for University Services</i>	

Southern Illinois University Administration

Ted Sanders, *President*
 John S. Haller, Jr., *Vice President for Academic Services*
 Donald W. Wilson, *Vice President for University Services and Board Treasurer*
 Elaine Hyden, *Vice President for Planning and Budget Services*
 Jack Dyer, *Executive Assistant for Media Services*
 Garrett L. Deakin, *Executive Assistant for Government Relations*
 Betty J. McDowell, *Assistant Vice President for Academic Services*

Southern Illinois University, Carbondale, Administration

Jo Ann E. Argersinger, *Chancellor*
 John S. Jackson III, *Vice Chancellor for Academic Affairs and Provost*
 James A. Tweedy, *Vice Chancellor for Administration*
 Thomas C. Britton, *Acting Vice Chancellor for Institutional Advancement*
 Harvey Welch, Jr., *Vice Chancellor for Student Affairs*

Graduate School Administration

Richard E. Falvo, *Acting Associate Vice Chancellor for Academic Affairs and Research and Dean*, Graduate School
 John A. McKillip, *Associate Dean*, Graduate School
 John S. Mead, *Associate Dean*, Graduate School, and *Director*, Coal Research Center
 Victoria J. Molfese, *Associate Dean*, Graduate School, and *Director*, Research Development and Administration
 Patricia McNeil, *Assistant Dean*, Graduate School

University Calendar

All breaks officially begin at 10:00 o'clock the night before, and end at 7:30 the morning after, the respective beginning and ending dates listed unless otherwise noted.

Summer Session 1998

Eight-Week Session Begins	Monday, June 15, 7:30 A.M.
Deadline to Apply for Graduation	Friday, June 19
Deadline to Drop an 8-Week Class and Receive a Refund	Friday, June 26
Independence Day Holiday	Friday, July 3
Deadline to Drop an 8-Week Class	Monday, July 13
Final Examinations	Thursday–Friday, August 6–7
Commencement	Saturday, August 8

Fall Semester 1998

Semester Classes Begin	Monday, August 24
Deadline to Apply for Graduation	Friday, August 28
Deadline to Drop a Class and Receive a Refund	Friday, September 4
Labor Day Holiday	Monday, September 7
Deadline to Drop a Class	Monday, October 19
Fall Recess	Thursday–Sunday, October 29– November 1
Thanksgiving Vacation	Noon Saturday–Sunday, November 21–29
Final Examinations	Monday–Friday, December 14–18
Commencement	Saturday, December 19

Spring Semester 1999

Martin Luther King, Jr.'s Birthday Holiday	Monday, January 18
Semester Classes Begin	Tuesday, January 19
Deadline to Apply for Graduation	Friday, January 22
Deadline to Drop a Class and Receive a Refund	Friday, January 29
Spring Vacation	Noon Saturday –Sunday, March 13–21
Deadline to Drop a Class	Monday, March 22
Final Examinations	Monday–Friday, May 10–14
Commencement	Friday–Saturday, May 14–15

Summer Session 1999—Tentative

Eight-Week Session Begins	Monday, June 14, 7:30 A.M.
Deadline to Apply for Graduation	Friday, June 18
Deadline to Drop an 8-Week Class and Receive a Refund	Friday, June 25
Independence Day Holiday	Monday, July 5
Deadline to Drop an 8-Week Class	Monday, July 12
Final Examinations	Thursday–Friday, August 5–6
Commencement	Saturday, August 7

Fall Semester 1999—Tentative

Semester Classes Begin	Monday, August 23
Deadline to Apply for Graduation	Friday, August 27
Deadline to Drop a Class and Receive a Refund	Friday, September 3
Labor Day Holiday	Monday, September 6
Deadline to Drop a Class	Monday, October 18
Fall Recess	Friday–Monday, October 29–November 1
Thanksgiving Vacation	Noon Saturday–Sunday, November 20–28
Final Examinations	Monday–Friday, December 13–17
Commencement	Saturday, December 18

Spring Semester 2000—Tentative

Semester Classes Begin	Monday, January 10
Deadline to Apply for Graduation	Friday, January 14
Martin Luther King, Jr.'s Birthday Holiday	Monday, January 17
Deadline to Drop a Class and Receive a Refund	Friday, January 21
Spring Vacation	Noon Saturday–Sunday, March 4–12
Deadline to Drop a Class	Monday, March 13
Final Examinations	Monday–Friday, May 1–5
Commencement	Friday–Saturday, May 5–6

Excused Absences for Religious Holidays. Students absent from classes because of required observances of major religious holidays will be excused. It is the student's responsibility to notify in advance the instructor of each class that will be missed. Students must also take the responsibility for making up work missed.

Deans of Colleges and Schools

James M. McGuire, College of Agriculture, Agriculture Building

Siva Balasubramanian, *Acting Dean*, College of Business and Administration,
Rehn Hall

R. Keith Hillkirk, College of Education, Wham Education Building

Juh Wah Chen, College of Engineering, Engineering Building

Richard E. Falvo, *Acting Dean*, Graduate School, Woody Hall

Thomas Guernsey, School of Law, Lesar Law Building

Robert Jensen, *Acting Dean*, College of Liberal Arts, Faner Hall

Carolyn A. Snyder, Library Affairs, Morris Library

Carl J. Getto, School of Medicine, Wheeler Hall

Joe S. Foote, College of Mass Communication and Media Arts, Communications
Building

Jack Parker, College of Science, Neckers Building

Elaine M. Vitello, College of Applied Sciences and Arts, Applied Sciences and
Arts Building

1 / The Graduate School

Southern Illinois University

Southern Illinois University has entered its second hundred years of teaching, research, and service. At the outset of the 1970's, Southern Illinois University became a single state system with two universities: Southern Illinois University at Carbondale and Southern Illinois University at Edwardsville. Southern Illinois University at Carbondale also has a medical school campus at Springfield.

Southern Illinois University at Carbondale (SIUC) first operated as a two-year normal school but in 1907 became a four-year, degree-granting institution. In 1943 SIUC was transformed from a teacher-training institution into a university, thus giving official recognition to the area's demand for diversified training and service. Graduate work was instituted in 1943, with the first doctoral degrees granted in 1959. There has been diversification and expansion of graduate programs across the University through the Colleges of Agriculture, Business and Administration, Education, Engineering, Liberal Arts, Mass Communication and Media Arts, and Science. Combined, these colleges presently offer 87 graduate degree programs. In addition to expansion of programs within the Graduate School, professional schools were established in medicine and law.

In keeping with the state's master plan, and with a commitment to enhance its Carnegie II Research status, the University's objective is to provide a comprehensive educational program meeting as many individual student needs as possible. While providing excellent instruction in a broad range of traditional programs, it also helps individual students design special programs when their interests are directed toward more individualized curricula. The University comprises a faculty and the facilities to offer general and professional training ranging from two-year associate degrees to doctoral programs, as well as certificate and non-degree programs meeting the needs of persons not interested in degree education.

Enrollment

In fall semester 1997, out of a total enrollment of 21,908, SIUC had 3,371 and 720 registered graduate and professional students respectively.

Location

Carbondale is approximately 100 miles southeast of St. Louis, Missouri. Immediately south of Carbondale begins some of the most rugged and picturesque terrain in Illinois. Sixty miles to the south is the historic confluence of the Ohio and Mississippi rivers, the two forming the border of the southern tip of Little Egypt, the fourteen southernmost counties in Illinois. Within ten miles of the campus

are located two state parks and four recreational lakes and much of the area is a part of the 263,000 acre Shawnee National Forest.

Campus

The Carbondale campus, comprising more than 3,290 acres, has developed a 981 acre portion with woods and a lake as a site for its academic buildings and residence halls. The buildings are located in wooded tracts along two circular shaped campus drives, named for Lincoln and Douglas.

The Graduate School

WWW: <http://www.siu.edu/gradschl/>

The primary concerns of the Graduate School are graduate instruction and research. The Graduate School therefore plays an essential role in development of instructional and research programs, in acquisition of funds, and in procurement of facilities necessary to encourage and support research by members of its scholarly community. Through faculty, staff, and students the Graduate School makes its contribution to the public welfare of the region, state, nation, and international community.

The Graduate School offers master's degrees through sixty programs and the doctoral degree through twenty-seven programs. Graduate students pursue advanced study and research under the leadership of a graduate faculty of over 800 members. In addition, the Schools of Law and Medicine provide graduate students with additional opportunities in instruction and research. The Graduate School administers programs in the Colleges of Agriculture, Business and Administration, Education, Engineering, Liberal Arts, Mass Communication and Media Arts, Science, and the School of Medicine.

Within these colleges and schools are departments whose distinguished faculty offer inspired teaching, conduct innovative research, and facilitate student services from admission to placement. The University has an excellent library and has a very good computing facility. For further information, see Academic Resources elsewhere in this chapter. In addition to the excellent research conducted in the colleges and schools, SIUC operates a number of research centers, most of which have been established with the aid of outside funding. These centers also are described under Academic Resources.

Graduate Degrees Offered

The Graduate School offers the master's, Master of Fine Arts, Doctor of Philosophy, Doctor of Rehabilitation, and Doctor of Business Administration degrees.

In several of the programs listed below, one or more concentrations are available.

Master's Degrees

Master's degrees are available in the approved programs listed below:

Abbreviations:

Master of Accountancy, M.Acc.

Master of Arts, M.A.

Master of Business Administration, M.B.A.

Master of Music, M.M.

Master of Public Administration, M.P.A.

Master of Science, M.S.

Master of Science in Education, M.S.Ed.

Master of Social Work, M.S.W.

Accountancy	M.Acc.	History	M.A.
Information Systems		American	
Taxation		European	
Administration of Justice	M.A.	Latin American	
Agribusiness Economics	M.S.	Interactive Multimedia	M.A.
Agribusiness Economics		Journalism	M.A., M.S.
Agricultural Services		Manufacturing Systems	M.S.
Animal Science	M.S.	Mathematics	M.A., M.S.
Anthropology	M.A.	Mechanical Engineering	M.S.
Applied Linguistics	M.A.	Mining Engineering	M.S.
Behavior Analysis and Therapy	M.S.	Molecular Biology, Microbiology, and Biochemistry	M.S.
Biological Sciences	M.S.	Music	M.M.
Business Administration	M.B.A.	Music Education	
Information Systems		Music History and Literature	
International Business		Music Theory and Composition	
Chemistry	M.S.	Opera-Music Theater	
Civil Engineering	M.S.	Performance	
Communication Disorders and Sciences	M.S.	Piano Pedagogy	
Computer Science	M.S.	Pharmacology	M.S.
Curriculum and Instruction	M.S.Ed.	Philosophy	M.A.
Economics	M.A., M.S.	Physical Education	M.S.Ed.
Educational Administration	M.S.Ed.	Physics	M.S.
Educational Psychology	M.S.Ed.	Physiology	M.S.
Counselor Education		Plant Biology	M.S.
Educational Psychology		Plant and Soil Science	M.S.
Electrical Engineering	M.S.	Crop Science	
English	M.A.	Horticultural Science	
Literature		Soil Science	
Rhetoric and Composition		Political Science	M.A.
Food and Nutrition	M.S.	Psychology	M.A., M.S.
Foreign Languages and Literatures	M.A.	Clinical	
French		Counseling	
Spanish		Experimental	
Forestry	M.S.	Public Administration	M.P.A.
Forest Resource Management		Recreation	M.S.Ed.
Outdoor Recreation Resource Management		Rehabilitation Administration and Services	M.S.
Wood Science and Technology		Rehabilitation Counseling	M.S.
Geography	M.S.	Social Work	M.S.W.
Physical Environmental Systems		Sociology	M.A.
Resource Management Systems		Special Education	M.S.Ed.
Urban and Regional Planning		Speech Communication	M.A., M.S.
Geology	M.S.	Teaching English to Speakers of Other Languages	M.A.
Health Education	M.S.Ed.	Telecommunications	M.A.
Higher Education	M.S.Ed.	Workforce Education and Development	M.S.Ed.
College Student Personnel		Zoology	M.S.
Community College Teaching			

Master of Fine Arts Degree

Master of Fine Arts (M.F.A.) degree programs are available in the fields below:

- Art
- Cinema and Photography
- Creative Writing
- Theater

Doctoral Degrees

Doctor of Philosophy degree programs are available in the fields listed below along with the approved concentrations:

Anthropology	Mathematics
Chemistry	Molecular Biology, Microbiology, and Biochemistry
Curriculum and Instruction	Pharmacology
Economics	Philosophy
Educational Administration	Physiology
Educational Psychology	Plant Biology
Engineering Science	Political Science
English	Psychology
Geography	Clinical
Physical Environmental Systems	Counseling
Resource Management Systems	Experimental
Geology	Sociology
Health Education	Speech Communication
Historical Studies	Workforce Education and Development
Journalism	Zoology

The Doctor of Rehabilitation degree is offered in the area of rehabilitation.

The Doctor of Business Administration degree is offered in the area of business administration.

Student Responsibility

Students are responsible for knowing degree requirements and enrolling in courses that will enable them to complete their degree programs. It is also their responsibility to know the University regulations for the standard of work required to continue in the Graduate School. For information, consult both the general and specific degree requirements enclosed in this publication. Additional details about requirements and procedures are available from your graduate adviser or the Graduate School.

Human Subjects

Before the start of any research involving human subjects, the research project must be reviewed and approved by the SIUC Human Subjects Committee (an institutional review board). If your master's or doctoral project will involve human subjects (including administering questionnaires, conducting interviews, or accessing confidential databases), you must submit an application to the committee *prior* to the start of the research. Call 618-453-4533 for information and application materials. When you submit your master's thesis /research paper or doctoral dissertation to the Graduate School, you must include Form A indicating that your project has been reviewed and approved by the committee. If this form is not included, your master's research paper/thesis or doctoral dissertation cannot be accepted by the Graduate School.

Animal Care

The SIUC Animal Care Committee was formed to establish and enforce ethical, humane guidelines for the use of live animals in research at the University. The committee reviews all protocols involving the use of vertebrate animals for training, research, and testing to assure compliance with humane standards and federal regulations. Researchers with projects involving animals must submit a completed *Animal Use Protocol* form for the committee's review. Approval of the protocol is required before the animals can be used for training, research, or testing purposes. The Vivarium is accredited by the Association for Assessment

and Accreditation of Laboratory Animal Care International. For more information, contact the Animal Care Committee at 618-453-4540 or the Vivarium at 618-536-2346.

Handling Chemicals

Faculty, staff, and students conducting projects that involve hazardous biological materials (including recombinant DNA), radiological materials, or hazardous chemical materials must have prior approval and must comply with all relevant government regulations. SIUC's Center for Environmental Health and Safety (618-453-7180) monitors compliance and oversees the approval committees of Institutional Biosafety, Radiological Control, Hazardous Waste Oversight and Biological Safety Oversight.

Degree Requirements

The following section describes Graduate School regulations unique to the master's and the doctoral degrees. For Graduate School procedures and regulations applicable to all graduate students, regardless of degree program, the student should consult the section titled General Regulations and Procedures. For information about specific degree programs, the student should consult the departmental degree program description.

MASTER'S DEGREE PROGRAM

Requirements and admission policies for applicants to a master's degree program are elaborated on in the following paragraphs.

Admission

In order to be admitted to a degree program, an applicant must meet Graduate School admission requirements and be approved by the department or degree program concerned.

The Graduate School requires that the applicant hold a bachelor's degree from an accredited institution or have completed all undergraduate degree requirements prior to the beginning of the classes for the term for which admission is sought. The applicant must have earned a grade point average (GPA) of 2.70 or better ($A = 4.00$) on approximately the last 60 semester hours of undergraduate coursework. Applicants to master's degree level study may begin the admissions process when they need no more than 32 semester hours beyond the credit shown on their transcript at the time of application to complete all requirements for the bachelor's degree.

An applicant who is a U.S. citizen or permanent resident and whose GPA is below 2.70 may be admitted as an unclassified student and may later apply to a degree program when 12 or more semester hours of graded graduate work at SIUC have been completed. A minimum GPA of 3.00 is required in courses for which grades of *A*, *B*, *C*, *D*, *F* have been assigned.

Any applicant who has completed 12 or more semester hours of graded graduate work at an accredited U.S. education institution, and who has a GPA of 3.00 or better on all graduate work, may be exempted from the 2.7 undergraduate grade point average requirement.

Any student with fewer than 12 hours of graduate work may be admitted to the Graduate School on the basis of undergraduate GPA only.

General Requirements

Graduate credit earned in graduate courses for which the student has received grades of *A*, *B*, *C*, or *S*, and only such credit, is acceptable for master's degree

programs. At least 21 semester hours of graduate credit with grades of *A*, *B*, or *C* must be earned in courses graded *A* through *F*. An overall grade point average of at least 3.00 in all graduate work is required before the degree can be awarded.

The Graduate School requires a minimum of 30 semester hours of acceptable graduate credit for the master's degree. Since certain degree programs require more than 30 hours, the student should consult the description of the appropriate program for specific requirements. No more than half of the credit applied toward fulfillment of the master's degree requirements may be earned at other universities and transferred to SIUC.

At least nine hours of course work must be earned in courses taught on the Carbondale campus or in an approved residency center and at least nine hours of credit must be earned after admission to the degree program.

In addition, a minimum of fifteen hours in courses numbered 500 or above must be earned at SIUC.

Candidates for a master's degree are required to pass a comprehensive examination covering all of their graduate work, including the thesis. This examination may be written or oral, or both, as determined by the student's advisory committee.

Time Limits

A student has six calendar years to complete the degree. This time is calculated from initial enrollment to completion of all degree requirements including any document that must be approved by the Graduate School. This time limit includes courses taken either at SIUC or elsewhere. All students must remain registered until completion of their degrees. See section Continuing Enrollment Requirement.

Thesis

Each candidate for a master's degree shall write a thesis except where a graduate program has been approved to provide some other arrangement, such as a research paper. The thesis shall be supervised by a committee of at least three members of the graduate faculty and may be counted for not more than six nor less than three semester hours of credit.

All students enrolled in a graduate program must continuously enroll except for summer. The enrollment can be in classes or in Continuing Enrollment 601.

Two copies of the approved thesis must be presented to the Graduate School by the stated deadline date to be bound and shelved in the library. For non-thesis programs, a research paper should show evidence of the student's knowledge of research techniques and should be based on a special project or specific courses as may be recommended by the advisory committee. One copy of the research paper must be filed in the Graduate School by the stated deadline date.

Double Major for a Master's Degree

A student may earn a double major for a master's degree if such a program of graduate study is commensurate with the student's vocational and professional goals.

A student interested in pursuing a double major for a master's degree must submit to the graduate dean a written statement of justification for the proposed program and a program of study endorsed by the chairman of both of the cooperating units. The forms for submitting a double major program of study are available in the Graduate School office.

Requirements.

1. The student must have been admitted to one master's degree program.
2. Each unit in which the student wishes to earn a major must have an approved master's degree program.

3. The chairman of each unit must endorse the proposed program.
4. The proposed program must specify the title of the degree which is to be awarded.
5. The proposed program must be approved by the graduate dean.
6. At least 18 semester hours must be earned for each major, and one-half of the required course work for each major must be in courses numbered 500 or above.
7. The minimum number of hours required for the double major must total 60 per cent of the sum of the total required for the two majors individually.
8. The thesis may be counted for not more than a combined total of 6 nor less than 3 semester hours of credit.

Second Master's Degree

A student may earn a second master's degree if the second degree is offered by an academic unit different from that of the first master's degree. None of the hours used towards any previous degree will be allowed to count as a part of the total number of hours toward a second master's, and all regulations shall apply to the second master's degree exactly as they would if this were a first master's degree.

Concurrent Master's Degrees Program

A concurrent master's degrees program permits students to be enrolled at the same time in two academic departments which have an approved concurrent degrees arrangement with each other, and earn two master's degrees.

Academic departments, upon approval of the Graduate Council, may establish a concurrent degrees program. Concurrent master's degrees programs will only be approved if they can be shown to enhance graduate students' educational experiences and professional opportunities. Furthermore, concurrent degrees programs must meet the following requirements:

1. students must obtain admission to both academic departments, and must be formally admitted to the concurrent degrees program prior to completion of the master's degree requirements for either of the participating academic departments;
2. students are required to complete all core requirements of each master's program;
3. students are required to earn no less than 80 percent of the total number of semester hours required in the master's degree programs of each of the participating academic units.

Approved concurrent master's degrees programs are the M.A. in telecommunications and M.B.A., and the M.S. in agribusiness economics and M.B.A. Contact the Graduate School Admissions Office for details.

Concurrent Master's and Law Degrees Programs

Master of Accountancy/Juris Doctor (LAW/ACTY)

Master of Business Administration/Juris Doctor (LAW/MBA)

Master of Public Administration/Juris Doctor (LAW/PADM)

Master of Social Work/Juris Doctor (LAW/SOCW)

Summary of Master's Degree Requirements

- At least 30 hours of graduate credit, or the minimum number of hours required by the specific degree program.
- Grade point average of at least 3.00.
- At least 15 hours in courses numbered 500 or above, which must be completed at SIUC.
- At least 9 hours after admission to the degree program.

- At least 9 hours taught on the Carbondale campus or in an approved residency center.
- At least 21 hours of graduate course work graded A, B, or C.
- At least one-half of the required number of hours earned at SIUC.
- Courses to be applied to the degree taken within six years of conferring the degree.
- Transfer credit taken at another institution or as an unclassified student approved by the dean of the Graduate School.
- Two copies of an approved thesis or one copy of an approved research paper turned in to the Graduate School (not applicable for M.B.A., M.Acc., or M.S.W. programs).
- Comprehensive or oral examination.
- Submission of departmental clearance form.
- Register for 601 Continuing Enrollment, as required.

DOCTORAL DEGREE PROGRAM

All Graduate School requirements for the Doctor of Philosophy degree also apply to other doctoral degree programs under the jurisdiction of the Graduate School.

Admission

Admission to a doctoral program in the Graduate School normally requires a master's degree or its equivalent, a grade point average in graduate work of at least 3.25, and acceptance by the academic unit offering the doctoral program. Faculty of a degree program-unit may add its own grade point average requirements (above the Graduate School minima) for admission to that particular program. Direct post-baccalaureate degree entry is possible upon recommendation of the department and acceptance by the Graduate School. An applicant to doctoral level study may begin the admission process when the applicant needs no more than 16 additional semester hours (24 quarter hours) beyond the credits shown on the transcript at the time of application to complete all requirements for the master's degree. The graduate dean informs each student of any conditions for admission imposed by the Graduate School or by the academic unit.

Accelerated Entry into a Doctoral Program

Applicants with exceptional research potential or outstanding academic preparation may have the option to enter a doctoral program after one semester as a master's level student. Not all departments participate in the accelerated entry option; therefore, the interested applicant should contact the appropriate department.

The student initially must be admitted into a master's level program. After at least one semester and evidence that the applicant is prepared to begin research at the doctoral level and meets other departmental criteria for accelerated entry, the department may recommend admission directly into the doctoral program. The student must also meet the doctoral admission requirements including the minimum 3.25 grade point average for all graduate work.

It should be noted that course work to be applied toward residency does not begin until after admission into the doctoral program.

General Requirements

The doctoral degree is awarded for high accomplishment in a particular discipline or a recognized interdisciplinary area, as measured by the student's ability to pass the preliminary examination for admission to candidacy, meet the research tool requirement of the program, perform a piece of original research, present the results in proper form in a dissertation, and defend the dissertation before a faculty committee. Except for the hours required to meet residency,

there is no Graduate School requirement that a certain number of semester hours be taken for the doctorate although some degree programs do require a certain number of semester hours. Graduate work completed at another institution may be eligible for transfer to the student's doctoral program, subject to Graduate School regulations regarding transfer of credit and acceptance by the student's major department.

No doctoral level residence-credit program may be established off campus, although course work involved in a doctoral program may be taken at an off-campus residence center provided that the full, normal requirement of residence on campus at SIUC is met under the usual Graduate School standards for doctoral programs.

Preliminary Examination

The student will generally prepare for this examination through independent study and course work, as advised by the faculty of the doctoral program. The examination is given to determine the breadth and depth of the student's knowledge within the discipline. The particular form and content of the examination are determined by the faculty of each of the doctoral programs. The student will be permitted to take the preliminary examination at the discretion of the department, after having completed two years of full-time study or its equivalent beyond the baccalaureate.

Research Tool Requirement

The doctorate at SIUC is a research-oriented degree. The research tool requirement is intended to be an integral part of the student's program. Since research materials, problems, and techniques vary from discipline to discipline, the details of the research tool requirement are determined by the faculty of each of the doctoral programs.

Residency

The residency requirement for the doctorate must be fulfilled after admission to the doctoral program and before formal admission to doctoral candidacy. The residency requirement is satisfied by completion of 24 semester hours of graduate credit on campus as a doctoral student within a period not to exceed four calendar years. No more than six hours of deferred dissertation credit may be applied toward fulfillment of the 24 semester hours residency requirement. No doctoral student will be permitted to sign up for more than six hours of dissertation until candidacy has been achieved. Any dissertation hours registered for above the six permitted prior to candidacy will not be counted toward completion of the doctoral degree. Credit earned in concentrated courses or workshops may apply toward fulfillment of the residency requirements if the student is concurrently registered for a course spanning the full term. No more than six semester hours of short course or workshop credit may be applied to the 24 semester hours residency requirement.

Admission to Candidacy

Admission to candidacy is granted by the dean of the Graduate School upon recommendation of the faculty responsible for the student's program, after the student has fulfilled the residency requirement for the doctoral degree, passed the preliminary examination, and met the research tool requirement of the program. The doctoral degree may not be conferred less than six months after admission to candidacy, except upon approval of the dean of the Graduate School. The candidate must fulfill all requirements for the degree within a five-year period after admission to candidacy. If completion of requirements is delayed beyond five years, a student may be required to take another preliminary examination and be admitted to candidacy a second time. All candidates must remain registered

until completion of their degree. See section Continuing Enrollment Requirement.

Dissertation

After being admitted to candidacy, the student must complete a dissertation showing that the student is capable of independent research or other creative effort. A successful dissertation usually represents the most extensive and intensive scholarly work the student has performed to date. Completing the dissertation will lead the student up to the cutting edge of research (however defined by the discipline) conducted at that time in his or her field of research. A dissertation must address a significant question and demonstrate that its author can interpret findings and formulate conclusions that are the result of independent thinking and sustained evaluation of source materials. These findings must be expressed in clear and grammatical language that is well organized into cogent and coherent argument. The dissertation shall be supervised by a faculty committee which has been approved by the dean of the Graduate School. Unless the graduate dean has approved an exception requested by the student's academic unit this committee shall consist of five graduate faculty members, at least one of whom shall be from a graduate program outside the student's academic unit. The student's academic unit shall be understood to mean the department (or equivalent units) and any member outside the department is eligible to serve as the outside member providing that the department and the graduate dean agree.

While working on the dissertation, the student must register for the course numbered 600. The student is to devote at least one academic year of full-time work to complete the dissertation and will register for 24 semester hours of dissertation credit, for example, 12 hours for each of two terms.

Students who have registered for 24 semester hours of dissertation credit and have not completed the doctoral dissertation are subject to the continuing enrollment requirement described in the section titled General Regulations and Procedures.

Publication of the doctoral dissertation to insure its availability to the scholarly community is considered an integral part of the process of doctoral education. Students must have their dissertations microfilmed by University Microfilms. An abstract of the dissertation will be published in *Dissertation Abstracts International*.

The student must submit two copies of the dissertation acceptable to the Graduate School, along with an abstract of 350 words or less. All dissertations will be microfilmed. There is a fee of \$60.00 to cover the cost of publication of the abstract and microfilming of the dissertation. If copyright is desired, an additional fee of \$35.00 will be required. The microfilming agreement form and the survey form of earned doctorates are completed in the office of the Graduate School at the time the dissertation is submitted.

The abstract will be published in the current *Dissertation Abstracts International* and the dissertation will be cited in *American Doctoral Dissertations* and *Comprehensive Dissertation Index*. A copy of the microfilmed dissertation will be placed in the Library of Congress archives. This service assures the student that the dissertation will be available to other researchers at no further personal expense to the student.

If the student elects to use the copyright service, copyright will be obtained in the student's name. Publication rights, other than for reproduction in microform or from microform, are the student's to assign to any publisher at any time. In addition, arrangements can sometimes be made for University Microfilms to publish a small edition of the dissertation.

Final Examination

There will be a final oral examination administered by the student's doctoral dissertation committee. The examination will cover the subject of the dissertation and other matters related to the discipline. Any member of the graduate faculty may attend the final oral examination and may participate in questioning and discussion, subject to reasonable limitations imposed by the chairperson of the committee, but only members of the committee may vote or make recommendations concerning acceptance of the dissertation and final examination. A student will be recommended for the degree only if the members of the committee, with at most one exception, judge both the dissertation and the performance at the final oral examination to be satisfactory. In cases where a committee of more than five members has been approved, the requirement of not more than one negative vote will still apply.

Interdisciplinary Doctor of Philosophy Programs

These guidelines provide for interdisciplinary doctoral programs for a limited number of students whose educational requirements can be met by existing resources, but not exclusively by any one of the University's constituent units. Interdisciplinary doctoral programs will be instituted in response to the particular academic interest of individual students, not as programs of a permanent nature. The procedures and criteria given below govern the authorization and control of interdisciplinary doctoral programs.

1. After admission to an established doctoral program at SIUC and upon the recommendation of the chairperson or adviser of that program, a student may apply for an interdisciplinary doctoral program to the dean of the Graduate School.
2. The dean of the Graduate School will apply the following criteria in deciding whether a program committee should be established to consider the proposed interdisciplinary doctoral program.
 - a. The requisite staff must be available.
 - b. The library holdings must be adequate without unreasonable additions.
 - c. The program must lie within the recognized disciplines or fields of study, at least one of which offers the doctoral program.
3. If the dean of the Graduate School is satisfied that the proposed program satisfies these criteria, the dean shall form a special program committee of five members, at least three of whom shall be from units offering the doctorate.
4. If the committee approves the proposed program, a plan of study shall be developed that includes the following elements:
 - a. Fields or areas of study
 - b. Required courses
 - c. Languages or other research tool requirements
 - d. Dissertation subject
 - e. Preliminary examination
5. The program as approved by the committee and accepted for principal sponsorship by a unit with an approved doctoral program shall be submitted to the dean of the Graduate School. Upon final approval the student's program shall have the same binding effect upon the Graduate School as programs printed in the graduate catalog. The degree earned shall carry the title of the doctoral unit that has assumed principal sponsorship. The commencement program shall give specific indication that the degree is interdisciplinary and include a listing of those units that are substantively involved in addition to the principal sponsoring unit, as determined by the graduate dean.

6. When the committee has certified all the required performances, including the results of examinations, the committee shall be dissolved.

Summary of Doctoral Degree Requirements

- Achievement of a grade point average of at least 3.00.
- Completion of any specific courses required by the doctoral program.
- Fulfillment of the residency requirement.
- Completion of the research tool required by the doctoral program.
- Passing of the preliminary examination.
- Admission to candidacy.
- Completion of an approved dissertation with 24 hours of dissertation credit.
- Oral defense of dissertation.
- Submission of two approved copies of the dissertation to the Graduate School.
- Payment of \$60.00 microfilming fee.
- Completion of microfilm agreement and survey of earned doctorates at the Graduate School office.
- Degree conferred not less than six months nor more than five years after admission to candidacy.
- Submission of departmental clearance form.
- Register for 601 Continuing Enrollment, as required.

General Regulations and Procedures

This section includes Graduate School procedures and regulations applicable to all graduate students regardless of degree classification. Requirements unique to the master's and doctoral degrees are stated in the section titled Degree Requirements. For information about specific degree programs the student should consult the appropriate degree program description. Requirements unique to the non-degree classifications are stated in the section in this chapter titled Unclassified Students—Non-Degree.

APPLICATION FOR GRADUATE STUDY

Students interested in admission to degree programs should contact appropriate departments directly to obtain official Graduate School application forms and other departmental materials. Students interested in unclassified (non-degree program affiliated) status, should contact the Graduate School directly to obtain application materials. In addition, students should carefully read directions obtained from departments on where to send official transcripts. Regardless of where the official transcripts are eventually sent, such transcripts must be forwarded directly from the registrar of previously attended schools (other than SIUC).

Application Fee

The Graduate School has a \$20.00 non-refundable application fee for unclassified graduate students. In addition, most programs require a non-refundable application fee of \$20.00 which must be submitted with the Application for Admission to Graduate Study. Refer to the specific programs for application fee information.

Transcripts

Students must have the registrar of each college previously attended (except SIUC) send an official transcript of the student record to either the Graduate

School or the degree program director (check departmental procedures). Students applying for unclassified (non-degree status) must have the registrar of the degree-granting institution send one official transcript indicating the receipt of the bachelor's (or higher) degree to the Graduate School. Transcripts from institutions where the student received neither a degree nor enrolled for more than 12 semester hours of undergraduate credit are not required, provided that the grades obtained at such institutions are recorded upon the transcript of the college which granted the student's degree. Transcripts submitted directly by students are not acceptable. Transcripts and other admission credentials will not be returned nor forwarded to other institutions.

In accord with the Family Education Rights and Privacy Act of 1974, no non-Southern Illinois University at Carbondale person, firm, or agency may have access to an applicant's or a student's credentials without written consent of the individual concerned. Graduate students shall be permitted to examine their own records upon request. Such requests should be made by the student to the dean of the Graduate School.

Test Scores

The Graduate School does not require the Graduate Record Exam (GRE); however, various departments may require, at their discretion, the GMAT, GRE, MAT, or other appropriate standardized tests for admission. Refer to the departmental program description or contact the department for specific information.

Deadlines

In order to be fully admitted to a degree program at the beginning of the academic term, an applicant should see to it that all required admissions materials are submitted no later than 90 days prior to the beginning of the term for which the applicant is seeking admission.

Admission is for the term indicated and a student who does not enroll in courses for that term will be required to update the application by a request to the Graduate School. The petition to update can only be granted within one calendar year of the initial admission term and only with the agreement of the department and the Graduate School. After one year, the student must be re-admitted through the regular admission process.

If the term for which the applicant is applying is more than two years after the term of original admission, a student applying to a degree program must have the registrar of all institutions previously attended furnish official transcripts. An unclassified, non-degree student must have the registrar of the bachelor's degree-granting institution furnish one official transcript. If a student is applying to a degree program and has taken any course work at another institution between the first admission and the first registration, the applicant must have the registrar of the appropriate institutions furnish official transcripts of this work regardless of the amount of time elapsed.

Requirements

The admission requirements of the Graduate School and the department must both be met before the student is admitted to a degree program, and both the Graduate School and the department may specify conditions. Most departments require additional materials such as letters of recommendation and these should be forwarded directly to the applicant's major department. The student will be informed by the Graduate School of the resultant admission status after this process has been completed.

Admission of Faculty Members

No one who holds a faculty appointment at any of the academic ranks—lecturer, instructor, assistant professor, associate professor, and professor—shall be admitted to a graduate degree program at any level, or be eligible to register for courses to be taken for graduate credit, in the graduate degree program in which the faculty member holds the appointment. If a faculty member has been admitted to a graduate degree program in some unit other than the one in which such appointment exists, no member of the faculty of the unit in which the appointment is held may be a member of that colleague's thesis committee, graduate program committee, dissertation committee, or any other examining committee. (See also faculty appointments in the section titled Financial Assistance.)

Admission of International Students

This school is authorized under federal law to enroll non-immigrant alien students. A student from abroad is subject to all requirements for admission established by the Graduate School. In addition, the applicant must complete special forms pertaining to the admission of international students. For these admission forms and for other information concerning international students, inquiries should be sent to the Graduate School.

To allow ample time for visa and other departure procedures, the applicant should have an application and all supporting documents on file with the University no less than six months prior to the proposed entry date.

International students must be enrolled in a program leading to a graduate degree. They cannot be admitted as unclassified students.

If the above requirements are satisfactorily met and the student is admitted to a degree program, the applicant will be required to certify that personally adequate financial resources will be available to undertake and continue in a program of study.

Test of English as a foreign language (TOEFL). All applicants whose native or first language is not English must take the TOEFL test no more than 24 months prior to the term for which the applicant is seeking admission. A minimum TOEFL score of 550 is required for Graduate School admission; higher scores may be required for admission into specific degree programs.

Exemptions to the TOEFL requirement are: (1) an applicant who has completed a bachelor's degree (four years attendance and completion of at least 100 semester hours of course work) at an accredited institution in the United States; (2) an applicant who has completed a master's degree at an accredited institution in the United States, who obtained a TOEFL score of at least 550 prior to beginning graduate studies and who has been in residence in the United States continuously prior to application to SIUC. Verification of the earlier TOEFL score by the degree granting institution is mandatory.

Official TOEFL scores should be sent only to the Graduate School Admissions Office. A photocopy of the examinee's score should be forwarded to the department of application.

Academic Requirements. If a foreign-born applicant has completed a four-year bachelor's degree program at an accredited institution in the United States of America, the applicant may be given the same consideration for admission to a graduate degree program as a United States citizen, in regard to both academic requirements and the use of English as a foreign language.

Applicants who have completed the equivalent of a four-year bachelor's degree at a recognized institution in any other country must have an academic record equivalent to a 2.70 grade point average ($A = 4.00$) for admission to a master's degree program.

The determination of the applicant's grade point average shall be the responsibility of the Graduate School.

Applicants for doctoral programs must meet the regular academic requirements for admission to a doctoral program.

Qualification for Assistantship with Teaching Duties. Every non-native English speaker assigned a graduate assistantship with teaching duties must pass an examination of oral English skill before undertaking classroom duties. A representative of the appointing department and of the Graduate School must participate in the examination.

There are two parts to the exam: an interview and a teaching sample. The procedures for this exam are described below. The exam is given by a three person committee: a department representative, a Center for English as a Second Language representative, and a Graduate School representative.

The *interview* begins by asking the student general information. The interview covers reasons for choosing Southern Illinois University, the student's chosen field of study and major emphasis, plans for graduation and the future, and also information about the nature of the projected teaching assignment.

For the *teaching sample*, the student gives a 10 to 15 minute teaching presentation on a topic related to his/her assistantship duties. The interviewers act as potential students in the relevant setting, asking the kinds of questions likely to be posed by students in such a setting.

Upon completion of the oral exam, the interviewers rate the student independently on three sets of scales:

- a. comprehension (how well the student understood what was asked)
- b. speaking/fluency (how grammatically and fluently the student spoke)
- c. pronunciation/accent (is the accent a barrier to communication)

The result of the oral interview is a consensus of all three interviewers, arrived at immediately upon comparison of the ratings.

There are three outcomes for the exam:

1. Pass, which allows the student to serve as a teaching assistant without restriction.
2. Restricted Pass, which limits the student's potential assignments. Limits are specifically tailored to the student's performance level, e.g., (for example: grading only, help sessions, laboratories under close supervision, relatively small classes as opposed to large lecture sections, one-on-one tutoring sessions, or to relatively advanced classes within the major subject).
3. Failure.

Students who fail, or are given a restricted pass, may be re-tested the next semester or when potential teaching assignments change.

The Graduate School sends letters detailing the results of the examination to the student's home department, and a copy is placed in each student's permanent graduate assistant file.

REGISTRATION

Only those students who have been officially admitted by the Graduate School will be permitted to register.

Some degree programs require their students to have an advisor's signature before registration. Please consult the designated major department about advisement. Unclassified non-degree students are their own advisors and may begin registration for the admitted semester after the registration period begins.

The schedule of classes for a particular semester is available from the Registration Center at the Graduate School.

Students are strongly encouraged to complete their registration before the beginning of classes. After the beginning of the term, the student must have the

approval of the Graduate School to register late and may be required to pay a late registration fee. In addition, after the first week of classes, registration or program changes involving adding a course must have the written approval of the instructor of each course as well as the approval of the Graduate School. The Graduate School registration deadline is the end of the third week of each semester.

Information concerning registration dates and deadlines for the first time the student attends the University will be sent when the student is admitted to the Graduate School. Continuing students should consult the *Schedule of Classes* for each semester to find deadlines and dates for registration.

Registration Methods

During the advance registration period (see registration calendar for dates in the *Schedule of Classes*) graduate students may register by several methods described below. Unclassified students may use any of the methods. Degree-seeking students may be required by their departments to have an advisor's signature and thus are limited to the options of Mail Registration or in person at the Graduate School.

MAIL REGISTRATION

Unclassified graduate students may mail in a course request form. Degree-seeking students should contact their graduate advisor to sign the Course Request Form as a prerequisite to the process. Mail to Graduate Registration, Graduate School, Southern Illinois University, Carbondale, IL 62901-4716.

PHONE REGISTRATION

Unclassified students may phone in their registration during office hours and during the advance registration period. Degree-seeking students whose departments do not require an advisor's signature may also phone in their registration. The telephone number is 618-453-2969.

TOUCH TONE REGISTRATION

By calling 618-453-7482, unclassified students and permitted degree-seeking students may call UniLink during the hours of 7:15 A.M. to 7:50 P.M., Monday through Friday, to register for classes or to add/drop. To begin the registration, a student needs a touch-tone telephone, a PIN (DD/YY of birth) and the 5-digit call number assigned to each class section. If you are not yet admitted to the Graduate School or do not have department approval to register or there is some other problem situation, the computer states that you are ineligible to register.

REGISTRATION AT THE GRADUATE SCHOOL

The Graduate Registration Center is located at Woody Hall B104. All students may register in person from 8:00 A.M. to 4:30 P.M., Monday through Friday. After the first week of classes, students are required to have the graduate dean's permission to add courses and must come to the center to process a registration or add. After the second week of classes, all registration and changes must be processed at the center. The Graduate School registration deadline is the end of the third week of each semester.

LATE REGISTRATION

A late registration fee of \$15 shall be assessed to all students taking on-campus classes who register after the designated registration period. This fee shall be non-refundable and non-waiverable, except when it is clearly shown that the late registration was caused by faculty or administrative action. Off-campus classes and registration in 599, 600, and 601 shall be exempt from such fee.

Withdrawal from Courses and from the University

DROPPING COURSES

Students officially registered for courses must withdraw formally. They must process an official withdrawal form. Outlined below are the procedures to be followed by graduate students when withdrawing from courses.

DEADLINES FOR DROPPING FROM A COURSE(S)

If Classes Meet for	*Deadline for Drop to Receive Refund	Deadline to Drop
13–16 weeks	2nd week	8th week
9–12 weeks	2nd week	6th week
8 weeks	2nd week	4th week
7 weeks	1st week	4th week
4–6 weeks	1st week	3rd week
2 or 3 weeks	1st day	1st week
less than 2 weeks	1st day	2nd day

*Students must drop a course or withdraw from the University by these deadlines to receive an account credit equal to a full refund of tuition and fees. Students who drop courses after the full refund deadline but remain enrolled in the University will not receive any refund. Students who withdraw from the University after the full refund period will receive an account credit equal to a pro-rata refund of tuition and fees through 60 percent of the duration of the enrollment period. An administrative fee will be assessed to all students who withdraw from the University and receive a pro-rata refund. The amount of the fee will be the lesser of 5 percent of all assessed charges, or \$100.

Students officially withdraw from courses through the program change process. This process starts with the academic adviser and is completed at the Registration Center. Graduate students may drop from a course through the 8th week of the fall and spring semesters. Drop deadlines for shorter sessions are correspondingly earlier (see schedule above). Official withdrawals during the first two weeks of the semester result in no entry being made on the student's record. Official withdrawals after the second week but prior to the 8th week of classes will result in the course listed on the student's record with the symbol W and the week of withdrawal. No drop from a course will be authorized after the 8th week of classes. It is the student's responsibility to insure that the drop process is officially completed.

WITHDRAWAL FROM THE UNIVERSITY

A complete withdrawal from the University may be authorized by the graduate dean through the Friday before the last week of classes. Students who withdraw from all classes will have a statement of withdrawal from the University and the week of withdrawal entered on their records. Students who find it necessary to withdraw from the University after school has started and who are on campus should contact the Graduate School in person to initiate the withdrawal process. If they are unable to come to campus, they may write the Graduate School asking that it process a withdrawal.

Students who advance register, including the paying of tuition and fees, and then find they cannot attend school must process an official withdrawal the same as do those who withdraw after school starts. In this case the process is the same as outlined in the paragraph above. Students who advance register but do not clear tuition and fees by the announced deadline date have their registrations cancelled by the University. Students who have deferred payment of tuition and fees must officially withdraw if they stop attending classes; the failure to pay deferred fees by the deadline date does not cancel one's registration nor remove the obligation to pay the deferred fees.

Refer to the section titled Payment and Refunding of Tuition and Fees in this chapter for information about the refunding of tuition and fees when withdrawing from the University. Refer to that section, also, relative to special considerations extended to students withdrawing from school for extended military service.

Graduate Student Course Loads

FINANCIAL AID AWARDS

For financial aid *awarding* purposes, the following defines the number of semester hours for full-and half-time:

Status	16-Week Semester	8-Week Session
Full-time	12	6
Half-time	6	3

Graduate students enrolled in fewer than 6 hours for fall and spring semesters or 3 hours for summer session are not eligible to *obtain* student loans.

ENROLLMENT CERTIFICATION

The following semester hours of credit are to be used to certify full-time and half-time attendance of graduate students.

Status	16-Week Semester	8-Week Session
Full-time	9 or more hours*	3 or more hours
Half-time	6 hours	3 hours
Less than half-time ..	Less than 6 hours	Less than 3 hours

* Students who hold at least a quarter-time (25% FTE) graduate assistantship are considered as full-time if they have a minimum of 6 semester hours.

MINIMUM AND MAXIMUM COURSE LOADS

Maximum course work for graduate students is 16 hours each semester; 12 hours is considered normal load. The minimum and maximum loads for graduate students under various types of financial support are summarized below. To meet the minima below, a graduate student must enroll in graduate-level course(s) (typically a 400- or 500-level course; certain 400-level courses are not available for graduate credit). Audit work will not qualify to meet the minimum load. However, audit work is calculated in determining a student's maximum course load. Exceptions to these minima and maxima are possible only with the written permission of the graduate dean. If graduate students' enrollments exceed the maximum or fail to meet the minimum of hours required by their type of financial support, their registrations will be withdrawn and financial support will be terminated.

Type of Financial Support	16-Week Semester		8-Week Session	
	Max.	Min.	Max.	Min.
No financial support	16		9	
Graduate Assistantships				
1/2 time appointment	12	6	6	3
1/4 time appointment	14	6	9	3
Full-time University employees	8		6	
Graduate Fellowships	16	9	9	3
Full Veteran's Benefits	16	9	9	3
SIUC Scholarships	16	9	9	3

All University employees who wish to use the employee tuition and fee waiver (civil service and faculty) and are classified as graduate students must seek approval of the Graduate School to enroll in more than 8 semester hours of courses.

Continuing Enrollment Requirement

All students in a graduate program but not enrolled in classes by the Monday of the second week of the Fall or the Spring semesters must be registered for 1 hour of 601. This hour will be dropped if the student subsequently enrolls in a class that semester or is granted a leave of absence by his/her graduate program by the 8th week of the semester. Each program has its own policy of whether and when to grant leaves of absence. Students on leave are not required to enroll in 601 for the period of leave but a leave of absence does not affect the time-to-degree requirements. The requirement of 601 enrollment ends when a student passes the six years to complete a master's, the five years of doctoral candidacy, or officially withdraws from a program or graduates. Students who are granted extensions to these time limits would be covered by this revised 601 policy. Summer sessions are exempt from the continuous enrollment requirement.

Continuing Enrollment—601. Registration in 601 (1 hour per semester) is required of all graduate students, whether in residence or not, who are not otherwise enrolled for Fall or Spring semesters. Concurrent registration in any other course is not permitted.

Students registering for 601 are assessed only in-state tuition for the credit hour associated with the registration. Since none of the other student fees are assessed for 601, the student is not eligible for the benefits of any other programs such as Recreation Center use, Health Service and Student Medical Benefits, Students' Attorney Program assistance, etc. Students needing the above benefits that require fees may instead register for additional research, thesis, or dissertation hours.

School of Law Courses

A graduate student may enroll for graduate credit in designated law courses if the student has permission of the dean of the School of Law and the dean of the Graduate School. Registration must be processed through the Graduate School and the grades will be reported on the Graduate School letter-grade system (A, B, C, etc.).

A law student may register for law credit in graduate courses with approval of the dean of the School of Law and the graduate dean. Registration must be processed on School of Law forms and the grades will be reported on the Graduate School letter-grade system.

A law student may not register for graduate courses for graduate credit unless the student has been admitted to the Graduate School in an approved concurrent program.

ADDITIONAL INFORMATION

Residence-Center Credit

Credit earned at approved graduate residence centers and credit earned in off-campus courses for which graduate credit has been approved will be entered on a student's record as on-campus credit earned at SIUC.

Students enrolled for credit in approved residence-center master's degree programs or in specific residence-credit courses must have been officially admitted (either in a degree program or unclassified) to the Graduate School at SIUC.

For information about specific programs and courses, the student should consult the appropriate department.

Transfer Credit

All graduate credits earned by a student in good standing at an accredited university, which have not been applied toward fulfillment of requirements for another degree, are eligible for transfer to that student's degree program, subject to general limitations of Graduate School regulations, to residency requirements for doctoral degree programs, and to acceptance by the student's major department. All transfer credits are subject to final review by the graduate dean. No transfer credit will be given for work bearing a grade below *B* without express permission of the graduate dean in response to written petition from the student's department. No credit toward a degree may be earned by correspondence nor in extension courses at another university. In the case of a master's degree, the student must earn at least half of the credit applied toward fulfillment of degree requirements in courses offered by SIUC.

The department recommending the graduate degree shall administer all required general and final examinations, and a member of the graduate faculty at SIUC shall direct the student's master's thesis, required research paper, or doctoral dissertation.

Graduate Grading System

- A Excellent. 4 grade points.
- B Good. 3 grade points.
- C Conditional, not fully satisfactory. 2 grade points.
- D Poor, not satisfactory. 1 grade point.
- F Failure. 0 grade points.
- S Satisfactory. Used for thesis and dissertation credit and certain designated and approved 500-level research, internship, and practicum courses. Is not counted in calculating grade-point average.
- U Unsatisfactory. Used for thesis and dissertation credit and certain designated and approved 500-level research, internship, and practicum courses. Is not counted in calculating grade-point average.
- W Authorized withdrawal made through a program change. Work may not be completed. Refer to grade explanation below.
- INC Incomplete. Has permission of the instructor to be completed within a period of time designated by the instructor. Refer to grade explanation below.
- DEF Deferred. Used only for certain designated and approved 500-level courses of an individual continuing nature such as research, thesis, or dissertation. Refer to grade explanation below.
- AU Audit. No grade or credit earned. Refer to grade explanation below.
- WU Unauthorized withdrawal at instructor's discretion for student in good standing in class who stopped attending class during first 60% of the semester. This grade cannot be made up.

GRADING SYSTEM EXPLANATION

Only courses for which the grades of *A*, *B*, *C*, or *S* have been received are acceptable in fulfillment of graduate degree requirements. The letter grades *A*, *B*, *C*, *D*, and *F* are included in computing the grade-point averages for academic retention. If a graduate student repeats a course with the permission of the graduate dean, both grades will be counted in the grade-point average. Graduate students will not receive graduate credit for Pass/Fail grades. They may not receive a grade of Pass/Fail in a 400-level course graded Pass/Fail on an elective basis.

400-level courses. Most 400-level courses may be taken for graduate credit. The Graduate Catalog will indicate those 400-level courses which may be taken for graduate credit. No grades of Pass/Fail may be given for a 400-level course for graduate credit. The instructor in a 400-level course which can be taken for

graduate credit has the discretion to decide whether to require additional work for graduate credit.

Withdrawal. Except for the WU grade, a *W* indicates authorized withdrawal from a course prior to the date indicated in the schedule of classes for the term in which the course was taken. The student's record will reflect the courses from which the student had withdrawn with the symbol *W* and the week of withdrawal. Program changes to drop a course during the first two weeks of classes result in no entry being made on the student's record (consult the section entitled *Withdrawal from Courses* and from the University for additional information on withdrawal procedures and deadlines).

Incomplete. An *INC* is assigned when, for reasons beyond their control, students engaged in passing work are unable to complete all class assignments. An *INC* must be changed to a completed grade within a time period designated by the instructor. *INC* is not included in grade-point computation.

To complete the work from the original registration, a student should not register for the course again, but should complete the work for the original registration if the original registration is within the normal time limits established for the degree.

Deferred. When the work is completed in a course for which *DEF* has been assigned, the grade is changed to a letter grade by the instructor, except in the case of theses and dissertations. When a thesis or dissertation has been submitted to the Graduate School as approved, the grade is automatically changed to *S*. If a thesis or dissertation is found unacceptable and the student is dismissed from the program, the grade of *U* is automatically assigned upon receipt by the Graduate School of the action dismissing the student.

Audit. A student registering for a course on an audit basis receives no letter grade and no credit hours. The student's registration must indicate audit registration and the same fees are paid as when registering for credit. During the first two weeks of a regular semester a student registered for a course for credit may change to audit status or vice versa through the official program change process. Thereafter, the change may not be made.

Changing of grades. At the completion of a course the final grade assigned to a student is the responsibility of the instructor of the course. Grades given at the end of the course are final and may not be changed by additional work or by submitting additional materials; however, clerical errors in recording grades can be corrected. To correct a clerical error, the assigned instructors should submit a grade change card together with an explanation and justification of the grade change for the approval or disapproval of the department chair, the appropriate college dean, and the dean of the Graduate School. In cases of theses and dissertations, for which *DEF* grades are given, the Graduate School changes the *DEF* grades upon presentation and acceptance of the thesis and dissertation and receipt of the departmental approval papers. In courses for which *INC* and *DEF* grades have been given, the assigned instructors has the responsibility of determining the final grade to be assigned and notifying the Office of Admissions and Records of the final grade by means of the grade change card.

Financial Assistance

Financial assistance is available to qualified students in all fields of study in the form of (1) graduate assistantships where one serves as a classroom teacher or assistant, as a research assistant, or as an administrative assistant, (2) fellowships or traineeships, (3) scholarships, (4) federal work-study programs, and (5) loans. There are basic regulations that relate to these awards. Students should

make application for the graduate assistantships, fellowships, or traineeships through the department to which they have been admitted. Information and application forms for the tuition scholarship program may be obtained from the Graduate School office. Information regarding the federal work-study program and loans may be obtained by contacting the Financial Aid Office.

Students should be sure that their applications for admission are complete, including the submission of required transcripts to the Graduate School to allow consideration for an award.

Graduate assistant appointments, graduate fellowships, and most traineeships include a tuition scholarship, but fees must be paid by the student. A student may receive no more than two calendar years of graduate-student support while a master's level student. A student may receive no more than four calendar years of graduate-student support while a doctoral-level student. The maximum number of years of graduate-student support for students seeking a combination of graduate degrees is six (72 months) unless a specific exception based on the student's programmatic needs is granted by the graduate school. These time limits apply to assistantships, fellowships, traineeships, and similar awards and appointments administered by the University, regardless of source of funds. Students who are awarded graduate assistantships, fellowships or traineeships, but who have not furnished official proof of their most recent degree to the Graduate School shall be considered to be on term appointments for one semester only. No one will be appointed to a second term until an official transcript indicating receipt of the degree is received in the Graduate School.

Acceptance of an offer of financial aid (such as a fellowship, traineeship, or assistantship) for the next academic year by an actual or prospective graduate student completes an agreement which both student and graduate school enter into to honor. In those instances in which the student accepts the offer before April 15 and subsequently desires to withdraw, the student may submit in writing a resignation of the appointment at any time through April 15. However, acceptance given or left in force after April 15 commits the student not to accept another offer from another institution without first obtaining a written release from the institution to which a commitment has been made. Similarly, an offer by an institution after April 15 is conditional on presentation by the student of the written release from any previously accepted offer.

Graduate Assistants

Graduate assistantships (GA) are available in a variety of places across campus, from academic departments and research centers to administrative and service units. This type of appointment comprises the largest number of awards offered by the University. A graduate assistant must be a registered student in a degree program. Unclassified students are not eligible for graduate assistantships.

For these appointments, students should inquire directly to the chair of the department to which they have been admitted or to the appointing officer of the research center or administrative or service unit. Information about the criteria used to select GAs and to assign their responsibilities may be obtained by contacting the chair of the department, the administrator of a research or service unit, or the Graduate School.

The average GA appointment is 50% appointment (20 hours per week) and lasts for one academic year (9 months). There are also some 25% appointments requiring 10 hours per week. A student may hold two simultaneous quarter (25%) appointments on campus without special approval. GA appointments may be either on a semester-pay basis or a fiscal-pay basis.

Appointments of at least 25% time for the full length of an academic year qualify for a 9-hour tuition scholarship. Appointments of 50% qualify for a 10-hour tuition scholarship. The graduate assistantship appointment must be for at least 75% of the academic semester (13 out of 17 weeks) in order for a tu-

scholarship to accompany the appointment. If a student is appointed for less than a full academic term on a fiscal pay basis, the appointment will not carry a tuition scholarship. A GA holding an appointment for the full length of two consecutive semesters will be eligible for an 8-hour tuition scholarship the summer session immediately following the two consecutive semesters.

Salary schedules for graduate assistantships vary from unit to unit. Currently, monthly stipends range from \$826 to \$1080 (50% appointments). Generally doctoral students are paid higher rates than master's students. Information about the specific conditions of the appointment should be directed to the department or unit making the appointment.

In the best interests of both the University and students, academic departments should monitor outside employment and intervene in those cases where outside employment results in problems. Toward this end, it is within the rights and responsibilities of a department: 1) to require that graduate assistants holding outside employment notify their department, so that their performance can be monitored; 2) to make the relinquishing of outside employment a precondition for the continued enrollment of, and/or availability of assistantships to, students whose academic or assistantship performance has been rated Unsatisfactory; and 3) to cancel or not renew the assistantship contracts of those students whose assistantship performance is rated Unsatisfactory and who also hold and do not discontinue outside employment. Graduate students can appeal departmental decisions regarding outside employment and academic/assistantship status through the University's standard routes of appeal.

Federal Work-Study Graduate Assistantships

The Graduate School and the Financial Aid Office jointly administer the Federal Work-Study Assistantship program. This program supports approximately twenty-five graduate assistants each year. The program provides for up to 70% of each graduate assistantship from federal funds, with the remainder coming from departmental or collegiate funds. Students qualify for this program on the basis of financial need. Students must be citizens or permanent residents of the United States. Further information on application procedures and eligibility criteria is available from the Graduate School.

Graduate Fellowships

The Graduate School offers a number of graduate fellowships. The number varies depending on the funds available for these awards each year. All awards of this type are highly competitive based upon scholarship, scores on standardized tests, and potential for success in graduate study. Application for these awards should be made by February 1 preceding the academic year for which the award is desired. Application forms and information about the award may be obtained by contacting the department to which one has been admitted or is seeking admission.

The stipend for a fellowship is \$900 per month, or \$9,900 for eleven months for master's degree students; for doctoral degree students the stipend is \$1000 per month, or \$11,000 for eleven months. Graduate School fellowships include a tuition scholarship. Fellows may not hold jobs outside the University, since the purpose of the fellowship is to provide students with an opportunity to devote full time to their graduate studies and research rather than work part time at a job and part time at studies. There may be a training assignment if this has been outlined at the time of the appointment. Fellowship awardees must remain on campus as fulfillment of their award except with permission by the graduate dean.

Traineeships

Individual departments often are able to provide traineeships. Information about these awards should be directed to the department to which one has been admitted or is seeking admission.

Graduate Internships

The graduate internship provides an educational experience for students at either the master's or doctoral level who wish or are required as a part of their program of studies to devote their primary effort toward applied activities in an academic program or a community-based agency or business under the direct supervision of a qualified representative of the host agency or business. Such internship activities may be unpaid or paid. Paid internships are externally sponsored and include the following categories: (a) paid through the University as graduate assistants; (b) paid by an agency or business as an employee; or (c) paid by an agency or business as a consultant. Requests for information should be directed to one's department.

Dissertation Research Awards

Dissertation research awards are designed for superior students who are in the dissertation preparation stage of their graduate education. Selection is based upon a competition primarily considering the student's academic research and quality of the dissertation prospectus. Students who will have started their dissertations by the end of the fall semester (advanced to candidacy, completed preliminary examinations, and completed most of their course work and research tools) may apply for the award during the preceding spring semester. A recipient of a dissertation research award must be officially admitted to candidacy by the end of the semester in which the award begins. The application should be submitted by February 1. The award is for a maximum of 11 months at a monthly rate of \$1,000 or \$11,000 plus tuition scholarship.

Students holding a dissertation research award are expected to devote full time to the approved research project as determined by their department. The student should be enrolled for graduate credit hours or dissertation hours. The student holding such an award is expected to resign the award at the time the dissertation is submitted to the Graduate School if this comes prior to three weeks before the end of the time period for the award.

Graduate Dean's Fellowships

Several special graduate dean's fellowships are offered annually to students who, although not selected for a regular fellowship, in the judgment of the graduate dean show unusual promise for success in graduate studies. Students will be considered for these awards who have overcome social, cultural, or economic disadvantages in attaining their educational objectives. Application should be made through the chair of the department in which the student is enrolled.

Stipend rates and related regulations are the same as for the regular graduate fellowships. There is no service requirement other than those activities which are required by departments of all students regardless of the source of the support.

Delyte and Dorothy Morris Doctoral Fellowship Program

The Delyte and Dorothy Morris doctoral fellowships have been established by Southern Illinois University at Carbondale to honor a distinguished former president and his wife. During Dr. Morris's tenure as president (1949–71) the University grew to be a comprehensive research institution and established doctoral programs in twenty-two fields, now twenty-seven fields.

Eligible applicants must be at the beginning of their doctoral work. Therefore, applications prior to entrance into a doctoral program is required. Only applicants who have received no prior degree from SIUC and who have done no graduate work at SIUC are eligible. Applicants must possess the credentials of very promising scholars as indicated by high scholastic standing, excellent scores on standardized tests, outstanding recommendations, and evidence of high potential for research and publication.

Morris fellows will receive \$15,000 and a tuition scholarship for up to three years of full-time doctoral study at SIUC. Fellows are not eligible to hold another appointment either within or outside the University. Application deadline is February 1. Contact the Graduate School for application information.

State Fellowship Programs for Minority Students

The state of Illinois is currently supporting two fellowship programs for minority graduate students, the Illinois Minority Graduate Incentive Program (IMGIP) and the Illinois Consortium for Educational Opportunity Program (ICEOP). Both programs are designed to develop minority faculty and staff for Illinois institutions of postsecondary education; graduates of each program must agree to seek and accept appropriate employment in Illinois higher education. There are differences between the two programs in terms of eligible minority groups, residency requirements, eligible programs of study, etc. For further information and application materials, contact the IMGIP/ICEOP administrator in the Graduate School. While on IMGIP or full ICEOP awards, students may not hold other appointments either inside or outside the University, since the purpose of the fellowships is to provide students with a source of income which will enable them to study full time. All other rules and regulations governing University fellowships apply to these programs. Deadlines for applications are early in February for the following fall semester.

Proactive Recruitment of Multicultural Professionals for Tomorrow (PROMPT) Fellowship Program

The PROMPT Program, an initiative developed by the Graduate School to increase the number of minorities receiving advanced degrees, provides fellowship support to master's and doctoral students and assists college faculty to pursue their doctorate.

The Graduate School and each participating department will award up to 16 two-year financial assistance packages to beginning master's and doctoral students. The PROMPT fellowship includes a teaching or research assistantship, which provides a tuition waiver and stipend for the student. Deadline for application is February 1. Contact the Graduate School for application information.

Tuition Scholarships

A limited number of tuition scholarships are awarded each semester to graduate students on the basis of scholarship. The award is for remission of tuition; fees must be paid. Students may receive a tuition scholarship for a maximum of three semesters during their enrollment in the University.

To be eligible the student must be admitted to the Graduate School and to a department, and the student may not hold another University appointment which provides a tuition scholarship. Tuition scholarship recipients must enroll for a minimum of 9 hours each semester (3 hours in summer). There is no service requirement other than the duties required by a department of all students regardless of their source of support.

Application forms are available in the Graduate School office. Students should submit application forms at least one full semester preceding the semester for which the tuition scholarship is requested. Deadline dates are as follows: April

15 for summer session, July 15 for fall semester, and November 15 for spring semester.

Financial Aid Office

Other forms of financial assistance available through the Financial Aid office include part-time employment on and off campus, cooperative work-study programs, summer employment, and student loan funds.

External Support for Graduate Study

Fellowships, grants-in-aid, scholarships, and other similar awards for the support of graduate students are available from many sources outside the University. Students are encouraged to apply for such awards. Information concerning appropriate external sources of support may be obtained from the Office of Research Development and Administration or from department chairs or directors of graduate studies of the student's major department.

Faculty Appointments

No student in a graduate degree program shall be appointed to any full-time faculty position in the department (or equivalent unit) while enrolled in the unit as a student, with the sole exception that a student who has already been admitted to candidacy for the doctoral degree may be granted a term appointment as an instructor in the unit while so enrolled. Such a term appointment shall not be renewable beyond a period of one year.

Satisfactory Progress Policy for Graduate Students

PURPOSE

The Federal Government, the States, and Southern Illinois University at Carbondale have invested large sums of money in order to provide financially needy students the opportunity to attain a post-secondary education. Financial aid recipients are responsible for using the funds in an acceptable manner. Therefore, a classified graduate student who wishes to benefit from the receipt of financial aid must maintain satisfactory progress as defined in this policy.

AUTHORITY

The Higher Education Act of 1965, as amended, and the final regulations set forth by the Department of Education in 34 CFR 668 require that institutions of higher education establish reasonable standards of satisfactory progress. A classified graduate student who does not meet these standards is not eligible to receive applicable federally funded and/or state funded financial aid. Southern Illinois University at Carbondale shall make these standards applicable to the following federal aid programs: Perkins Loan, Federal Work-Study, Stafford Loan Program, and the Supplemental Loans for Students. Applicable state programs are identified by the state agencies. Unclassified graduate students are only eligible to be considered for a Stafford Loan or a Supplemental Loan for Students during one twelve-month period while preparing for a classified program of study.

SATISFACTORY PROGRESS STANDARDS

SIUC requires that a classified graduate student be making satisfactory progress toward a degree if that student wishes to receive financial aid funds. A classified graduate student is making satisfactory progress toward a degree if successfully meeting three basic academic standards. First, a classified graduate student is given a maximum time to graduate. Second, a classified graduate student must complete a reasonable number of credit hours attempted each academic year in attendance. Third, a classified graduate student must maintain a scholastic standing, derived from grades, that allows for continued enrollment at

the University under current academic guidelines. The following parameters will be used to define these basic academic standards.

1. *Maximum Time to Graduate:* A student's eligibility is terminated after the academic year in which a cumulative total of 75 master's hours — 90 hours for the Master of Fine Arts degree — or 100 doctoral hours is attempted.

2. *Credit Hours Completed:* A graduate student must complete at least 75% of the credit hours attempted during any year. The student's progress will be measured annually after spring semester to determine the progress made for the last academic year of attendance.

3. *Grades:* A student must be in compliance with the University's policy concerning academic standing, grades, and grade point average, as defined under the topic "Retention" and all other provisions in the current *Graduate Catalog*. A graduate student who is academically suspended from the Graduate School is not making satisfactory progress.

A classified graduate student who does not meet 2 and 3 set forth above and has been provided a probationary period or who cannot show mitigating circumstances is not maintaining satisfactory progress toward a degree and is no longer eligible to receive federal financial aid funds. (See Appeal for Mitigating Circumstances.)

Nothing in this policy shall be construed as a reduction of external requirements by other federal, state, public, or private agencies when they award or control financial aid. Examples of such agencies are: Veterans Administration, Vocational Rehabilitation, and the NCAA.

DEFINITIONS

Credit Hours Attempted shall be defined as those credit hours for which a student is registered and will receive a grade from SIUC.

Credit Hours Completed, for the purpose of the policy, shall be defined as the total number of academic credit hours for which a graduate student receives any grade from SIUC other than incomplete and failing, withdrawal, unsatisfactory, or audit. Deferred grades count as credit hours completed.

Eligible Students shall be defined as those classified graduate students who are admitted to the Graduate School and to a specific degree program.

Grade Point Average (GPA) is defined in the *Graduate Catalog* under the topic "Retention".

NOTIFICATION OF INELIGIBLE STATUS

It is the responsibility of the Graduate School to notify by letter any graduate student who is no longer eligible to receive financial aid funds. Said notices shall be addressed to the graduate student's most current permanent address on file with the University. *It is the responsibility of the student to inform the University of a correct permanent address at all times.* The Financial Aid office will provide the Graduate School with a list of graduate students who are no longer eligible to receive federal or applicable state financial aid.

REINSTATEMENT

Graduate students will have their eligibility to receive financial aid reinstated when they have reached the level of satisfactory progress required of them by this policy. They may achieve this status by the correction of incorrect grades, or by completing the required number of attempted hours during the next academic year of enrollment without the benefit of applicable financial aid.

SATISFACTORY PROGRESS PROBATIONARY PERIOD

A graduate student who has not met the satisfactory progress requirements and 3 specified above will be granted an extension for the following calendar year and will remain eligible for financial aid during this period. At the end of the probationary period, the student must have rectified the deficiency and achieved compliance with all other established criteria in order to be considered eligible for federal financial aid. *Only one such probationary period will be granted to a student during graduate studies.*

APPEAL FOR MITIGATING CIRCUMSTANCES

A graduate student shall have the opportunity to appeal in writing to the Graduate School for mitigating circumstances. The appeal should be sent to the Graduate School with endorsement of the student's program within 15 days of receipt of notification of ineligible status. The Graduate School will review the mitigating circumstances documented in the appeal and provide a written decision within 20 days after the receipt of the appeal.

The Graduate School will provide written notification to the Financial Aid Office concerning all graduate students who have been granted an exception to mitigating circumstances.

Tuition and Fees

Tuition and fees charged students are established by the Board of Trustees and are subject to change whenever conditions necessitate. All assessments are on a per-hour basis, with 12 hours considered full time. Students will be assessed the following tuition and fees for Fall 1998, Spring and Summer, 1999:

Graduate Student Tuition and Fee Schedule

Hours	Illinois Resident Tuition	Student Fees	Illinois Resident Total	Non Resident Tuition	Student Fees	Resident
1	\$ 98.80	\$ 249.08	\$ 347.88	\$ 296.40	\$ 249.08	\$ 545.48
2	197.60	273.41	471.01	592.80	273.41	866.21
3	296.40	297.74	594.14	889.20	297.74	1,186.94
4	395.20	322.07	717.27	1,185.60	322.07	1,507.67
5	494.00	346.40	840.40	1,482.00	346.40	1,828.40
6	592.80	370.73	963.53	1,778.40	370.73	2,149.13
7	691.60	395.06	1,086.66	2,074.80	395.06	2,470.66
8	790.40	419.39	1,209.79	2,371.20	419.39	2,790.99
9	889.20	443.72	1,332.92	2,667.60	443.72	3,111.22
10	988.00	468.05	1,456.05	2,964.00	468.05	3,432.05
11	1,086.80	492.38	1,579.18	3,260.40	492.38	3,751.78
12	1,185.60	516.90	1,702.50	3,556.80	516.90	4,073.40
13	1,284.40	516.90	1,801.30	3,853.20	516.90	4,369.40
14	1,383.20	516.90	1,900.10	4,149.60	516.90	4,666.60
15 +	1,482.00	516.90	1,998.90	4,446.00	516.90	4,964.80

The fees which have been established by the Board of Trustees are payable by all students unless they are specifically exempted by the Board of Trustees. These fees are considered to be institutional in nature and require payment regardless of whether or not the student receives direct benefits or is in a location that does not permit access to such benefits.

Student fees include: Student Center fee, student activity fee, athletic fee, revenue bond fee, and student medical primary care and extended care (insurance).

benefit fees. (Additional fee information is available in the schedule of classes.) Student fees include the following.

Student Center Fee. Provides funds for the operation of the Student Center.

Student Activity Fee. Provides funding for student organizations and activities on campus.

Athletic Fee. Provides partial funding for the university intercollegiate athletic program.

Revenue Bond Fee. Replaces funds which were previously obtained from tuition payments and used to under-write the funded debt operations of the Student Center and university housing.

Student Medical Benefit Primary Care and Extended Care (insurance) fees provide funding for comprehensive student health programs including emergency service; hospitalization; specialty, primary, emergency dental; counseling services; and prevention program. A student who pays these fees is entitled to full medical benefits at the Student Health Programs. Students who have comparable insurance coverage may be eligible for a refund of the Student Medical Benefit Extended Care (insurance) fee. A refund must be applied for within the first two weeks of each fall and spring semester and within the first week of the summer session.

Additional Fee Information

1. Students should refer to the Schedule of Classes for specific fee information.
2. Graduate, medical, and law students are not required to pay the Student-to-Student Grant Program Fee.
3. Students taking courses off campus or at approved residence centers are required to pay tuition as listed in the table above but do not pay student fees.
4. Students who combine enrollment in on- and off-campus courses pay tuition only for hours off campus and tuition and fees for hours enrolled on campus.
5. Graduate students registering for Continuing Enrollment, course 601, pay only tuition for credit associated with that course registration. Refer to the section titled Continuing Enrollment Requirement previously in this chapter for the regulations governing this fee.
6. In addition to the above fees, there is a graduation fee. When submitting dissertations, doctoral students are required to pay a \$60.00 fee to cover the cost of publication of the dissertation abstract and microfilming the dissertation. If copyright registration is desired, an additional fee of \$35.00 is required.
7. Other charges which students may incur are those for departmental field trips, library fines, and excess breakage. Also, students taking a course involving use of materials, as distinct from equipment, will ordinarily pay for such materials.
8. Students registering for courses on an audit basis pay the same tuition and fees as though they were registering for the courses for credit.
9. Out-of-state students will find the official University regulations governing determination of residency status for assessment of tuition later in this chapter.
10. Graduate students who reside in the Kentucky counties of Ballard, Caldwell, Calloway, Carlisle, Crittenden, Fulton, Graves, Hickman, Livingston, Lyon, McCracken, Marshall, Trigg, and Union will be assessed tuition at the Illinois Resident rate.

11. Graduate students who are residents of Missouri, and who enroll in up to six semester hours in a semester, will be assessed tuition at the Illinois Resident rate. Those who register for more than 6 semester hours in a semester will be assessed the non-resident rate for all hours enrolled.
12. For the purposes of tuition assessment, all faculty, staff (including Civil Service employees), and graduate assistants, as well as their spouses and dependent children, shall be considered as resident students.
13. An identification card fee of \$10.00 will be charged to all first-time SIUE students who register for on-campus credit. This is a one-time charge. For additional information please contact the Student Center ID Card Office.

Payment and Refunding of Tuition and Fees

Tuition and fees are payable each semester during the academic year. Students who register in advance receive a Statement of Account in the mail and may pay either by mail or in person at the Bursar's office, by the deadline date, in accordance with instructions accompanying the statement. Otherwise their advance registration is cancelled and they must register again later. Students who register at the start of a semester must pay tuition and fees according to the schedule which is in effect at that time. Students should read the *Schedule of Classes* for specific information on payment of tuition and fees.

Students who process a program change which places them in a different tuition and fee category than the one for which they originally registered will be billed additional tuition and fees when appropriate. If the change places them in a smaller tuition and fee category and if they have processed the program change within the first two weeks of the semester, they will receive an automatic credit to their account.

A credit for tuition and fees will be made to student accounts for students who officially withdraw from school by the withdrawal deadlines listed later in this chapter. They will receive a refund check in approximately four weeks after the withdrawal has been received by the Office of Admissions and Records. No credit for tuition and fees is made for withdrawal occurring after the deadlines, except as described in the next paragraph.

Special consideration is extended to individuals who leave school for extended military service (6 months or longer). Students will be refunded full tuition and fees paid if they enter military service during the first five weeks of school. If students withdraw during the sixth through tenth weeks of school, they will be refunded half of the paid tuition and fees, and they will receive one-half credit without letter grades for the courses in which they were receiving a passing grade at the time of withdrawal. When the withdrawal occurs after the tenth week, students will receive no refund, but will receive both grades and credit hours for the courses in which they are passing. In all instances, a copy of the military orders or a letter from the commanding officer is required for verification of impending military service. To be eligible for these benefits students must remain in school to within ten days of their military reporting date.

DEFERMENT OF TUITION AND FEES

Students who are experiencing a delay in the receipt of verified financial assistance through the Financial Aid office may be eligible for a cancellation waiver. If granted, a cancellation waiver prevents a student's registration from being cancelled even though tuition and fees have not been paid by the publicized cancellation date.

Information concerning cancellation waiver procedures is available from the Financial Aid office and the office of the Graduate School. This information is also published in the *Daily Egyptian* each term. Guidelines may vary from term to term and year to year so students are advised to seek out accurate information rather than assume they qualify.

Determination of Residency Status

For the purpose of these regulations an *adult* is considered to be a student eighteen years of age or over; a *minor* student is a student under eighteen years of age. The term “the State” means the State of Illinois except in the following instances: (1) for the purposes of assessing graduate tuition, the chancellor may take the term “the State” to include the Kentucky counties of Ballard, Caldwell, Calloway, Carlisle, Crittenden, Fulton, Graves, Hickman, Livingston, Lyon, McCracken, Marshall, Trigg, and Union. (2) For the purposes of assessing graduate tuition for not more than six hours the chancellor may take the term “the State” to include the State of Missouri. Graduate students who take more than six hours per term will be charged out-of-state tuition for all semester hours taken during the term. Except for those exceptions clearly indicated in these regulations, in all cases where records establish that the person does not meet the requirements for Resident status as defined in these regulations the non-resident status shall be assigned.

Determination of residence status of each applicant for admission to the University is made at the time of admission. A student may petition for change to Illinois residency by contacting the Graduate Registration Center to obtain the necessary forms and information. A student may be reclassified at any time by the University upon the basis of additional or changed information. However, if the University has erroneously classified the student as a Resident, the change in tuition shall be applicable beginning with the term following the reclassification; if the University has erroneously classified the student as a nonresident, the change in tuition shall be applicable to the term in which the reclassification occurs, provided the student has filed a written request for review in accordance with these regulations. If the University has classified a student as a Resident based on false or falsified documents, the reclassification to non-resident status shall be retroactive to the first term during which residency status was based on the false or falsified documents.

Adult Student. An adult, to be considered a Resident, must have been a bona fide resident of the State for a period of at least three consecutive months immediately preceding the beginning of any term for which the individual registers at the University, and must continue to maintain a bona fide residency in the State, except that an adult student whose parents (or one of them if only one parent is living or the parents are separated or divorced) have established and are maintaining a bona fide residence in the State and who resides with them (or the one residing in the State) or elsewhere in the State will be regarded as a Resident student.

Minor Student. The residence of a minor shall be considered to be, and to change with and follow:

- a. That of the parents, if they are living together, or the living parent, if one is dead; or
- b. If the parents are separated or divorced, that of the parent to whom the custody of the person has been awarded by court decree or order, or, in the absence of court decree or order, that of the parent with which the person has continuously resided for a period of at least three consecutive months immediately preceding registration at the University; or
- c. That of the adoptive parents, if the person has been legally adopted and, in the event the adoptive parents become divorced or separated, that of the adoptive parent whose residence would govern under the foregoing rules if that parent had been a natural parent; or
- d. That of the legally appointed guardian of the person; or
- e. That of the *natural* guardian, such as a grandparent, adult brother or adult sister, adult uncle or aunt, or other adult relative with whom the person

has resided and by whom the student has been supported for a period of at least three consecutive months immediately preceding registration at the University for any term, if the person's parents are dead or have abandoned him and if no legal guardian of the person has been appointed and qualified.

Parent or Guardian. No parent or legal or natural guardian will be considered a resident of the State unless said person (a) maintains a bona fide and permanent place of abode within the State, and (b) lives, except when temporarily absent from the State with no intention of changing the legal residence to some other State or country, within the State.

Emancipated Minor. If a minor has been emancipated, is completely self-supporting, and actually resides in the State, the minor shall be considered to be a Resident even though the parents or guardian may reside outside the State. An emancipated minor who is completely self-supporting shall be considered to *actually reside in the State of Illinois* if a dwelling place has been maintained within the State uninterrupted for a period of at least three consecutive months immediately preceding term registration at the University. Marriage or active military service shall be regarded as effecting the emancipation of minors, whether male or female, for the purposes of this regulation. An emancipated minor whose parents (or one of them if only one parent is living or the parents are separated or divorced) have established and are maintaining a bona fide residence in the State and who resides with them (or the one residing in the State) or elsewhere in the State will be regarded as a Resident student.

Married Student. A non-resident student, whether male or female, or a minor or adult, or a citizen or non-citizen of the United States, who is married to a resident of the State, may be classified as a Resident so long as the individual continues to reside in the State; however, a spouse through which a student claims residency must demonstrate residency in compliance with the requirements applicable to students seeking Resident status.

Persons without United States Citizenship. A person who is not a citizen of the United States of America, to be considered a Resident, must have permanent resident status with the United States Immigration and Naturalization Service and must also meet and comply with all of the other applicable requirements of these regulations to establish Resident status.

Armed Forces Personnel. A person who is actively serving in one of the Armed Forces of the United States and who is stationed and present in the State in connection with that service and submits evidence of such service and station, shall be treated as a Resident as long as the person remains stationed and present in Illinois. If the spouse or dependent children of such member of the Armed Forces also live in the State, similar treatment shall be granted to them.

A person who is actively serving in one of the Armed Forces of the United States and who is stationed outside the State may be considered a Resident only if the individual was a resident of the State at the time of entry into military service.

A person who is separated from active military service will be considered a Resident of Illinois immediately upon separation providing the person: (a) was a resident of the State at the time of enlistment in the military service, (b) became treated as a Resident while in the military by attending school at Southern Illinois University while stationed within the State, or (c) has resided within the State for a period of three months after separation.

State and Federal Penitentiary. A person who is incarcerated in a State or Federal place of detention within the State of Illinois will be treated as a Resident for tuition assessment purposes as long as said person remains in that place of

detention. If bona fide residence is established in Illinois upon release from detention, the duration of residence shall be deemed to include the prior period of detention.

Minor Children of Parents Transferred Outside the United States. The minor children of persons who have resided in the State for at least three consecutive months immediately prior to a transfer by their employers to some location outside the United States shall be considered Residents. However, this shall apply only when the minor children of such parents enroll in the University within five years from the time their parents are transferred by their employer to some location outside the United States.

Dependents of University Employees. For the purposes of tuition assessment, all faculty, staff (including civil service employees), and graduate assistants, as well as their spouses and dependent children, shall be considered as resident students.

Definition of Terminology. To the extent that the terms *bona fide residence*, *independent*, *dependent*, and *emancipation* are not defined in these regulations, definitions shall be determined by according due consideration to all of the facts pertinent and material to the question and to the applicable laws and court decisions of the State of Illinois.

A bona fide residence is a domicile of an individual which is the true, fixed, and permanent home and place of habitation. It is the place to which, whenever absent, the individual has the intention of returning. Criteria to determine this intention include but are not limited to year around residence, voter registration, place of filing tax returns (home state indicated on federal tax return for purposes of revenue sharing), property ownership, driver's license, car registration, vacations, and employment.

Procedure for Review of Residency Status or Tuition Assessment. A student who takes exception to the residency status assigned or tuition assessed shall pay the tuition assessed but may file a claim in writing to the appropriate official for a reconsideration of residency status and an adjustment of the tuition assessed. The written claim must be filed within 30 school days from the date of assessment of tuition or the date designated in the official University calendar as that upon which instruction begins for the academic period for which the tuition is payable, whichever is later, or the student loses all rights to a change of status and adjustment of the tuition assessed for the term in question. If dissatisfied with the ruling in response to the written claim made within said period, the student may appeal the ruling to the chancellor or his/her designee by filing with the appropriate official within twenty days of the notice of the ruling a written request.

UNIVERSITY EMPLOYEES

All full-time University employees who wish to use the employee tuition and fee waiver (civil service and faculty) who are classified as graduate students must seek approval of the Graduate School to enroll in more than six semester hours of courses.

Faculty and Staff

Members of the faculty who are seeking a waiver of tuition and fees, must apply each term for the waiver by completing an Application for Waiver of Tuition/Fees for Faculty form. A form may be obtained from the Human Resources Office or from the Graduate Registration Office, Woody Hall, B104. The form should be filled out promptly each term and may be turned in at the Graduate Registration Area or may be mailed to the Human Resources office. The amount

of the waiver will be automatically credited to the student's account after the faculty status is verified and the application form is processed.

Note that the waiver does not cover the Student Center fee, which must be paid by the student prior to the payment deadline in order to avoid cancellation of the registration. Faculty can phone the Graduate Registration Office (618-453-2969 or 618-453-4552) for any questions regarding the registration process.

Civil Service

Employees in permanent civil service positions will receive a tuition credit and credit applied toward some fees only when authorized by the Human Resources office after compliance with personnel regulations. However, civil service employees expecting a waiver of tuition and fees must process a Civil Service Tuition and Fee Waiver form through the Human Resources office before registering. If the Human Resources office approves the request, the student's account will then be credited with the amount of the waiver.

Note that the waiver does not cover the Student Center fee, which must be paid by the student prior to the payment deadline in order to avoid cancellation of the registration.

OTHER TYPES OF REGISTRATION IN GRADUATE COURSES

The following discussion concerns students who are either unclassified for various reasons or are undergraduates wanting to take graduate-level courses.

Unclassified Students—Non-Degree

A person may apply for admission to the Graduate School as an unclassified student when the applicant does not seek a graduate degree or has applied too late to be admitted to a degree program for the term for which admission is sought.

If an unclassified student is admitted to a degree program at a later time, the director of that program may petition the graduate dean that graduate courses completed while the student was unclassified be applied toward fulfillment of degree requirements. The student will be subject to the rules and regulations of the Graduate School and the department concerned including the completion of at least 9 hours after being admitted to a master's degree program from unclassified status.

Unclassified students are not eligible for fellowships, assistantships, or tuition scholarships.

REGULAR UNCLASSIFIED

A person who seeks admission as a regular unclassified graduate student must have been awarded a bachelor's or higher degree. A student admitted as a regular unclassified student may enroll in graduate courses as long as the student meets retention standards of the Graduate School.

LATE-ENTRY UNCLASSIFIED

An applicant to a degree program who meets Graduate School admission standards but whose materials are received too late for processing may be granted late-entry, unclassified status for the term for which admission was originally sought. The application papers will continue to be processed for admission to a degree program for the term following the one originally applied for. Whether or not work taken by a student who is unclassified because of late application will later count toward a degree will be decided by the Graduate School and the department concerned.

TEMPORARY UNCLASSIFIED (OFF CAMPUS)

A student may register as a temporary unclassified student for one semester only. If the student wishes to enroll in graduate courses after this time period, the student must apply for and be admitted, either to a degree program or to regular unclassified status.

Undergraduate Student Registration in Graduate Courses**GRADUATE CREDIT**

An undergraduate student who wishes to register for a graduate course (400- or 500-level course) for graduate credit must file the standard application for admission to the Graduate School and submit to the graduate dean a request for graduate credit. Forms are available in the Graduate School. If the student is academically eligible for admission to a degree program, the student will be allowed to register as an undergraduate for graduate courses for graduate credit when within 12 semester hours of completing requirements for the bachelor's degree.

An undergraduate student who meets these qualifications will be allowed to take graduate courses for graduate credit for one semester or one summer term. If, at the end of the term, the student has not received the bachelor's degree, permission to enroll in graduate courses for graduate credit will be withdrawn until after the bachelor's degree has been conferred.

UNDERGRADUATE CREDIT

The Graduate School has the responsibility of approving the registration of undergraduate students in 500-level courses for undergraduate credit. Undergraduate students should only be encouraged to take 500-level courses if they are properly qualified. In dealing with these requests the following procedures must be followed.

The chair of the department offering the course, in collaboration with the instructor who is teaching the particular course, should forward a letter to the graduate dean indicating their approval for this student to enroll in the 500-level course for undergraduate credit. Since such a request should only be made for superior students, the letters should include such information as: (1) undergraduate GPA; (2) general description of the student's academic work; and (3) why this course would be beneficial. The student must stop by the Graduate School to obtain permission to enroll upon receipt of the letter by the graduate dean. If permission to enroll has been granted by the graduate dean, this will be indicated to the registration center. Accordingly, the student should bring the request form or add/drop slip to the Graduate School.

Student Conduct Code

The following was approved by the President of Southern Illinois University on May 1991 and subsequently amended in accordance with provisions set forth in SIU Board of Trustees 3 *Policies C*. The most recent amendments were approved by the president on August 1997.

I. Introduction

- A. *Purpose:* Southern Illinois University at Carbondale is dedicated not only to learning, research, and the advancement of knowledge, but also to the development of ethically sensitive and responsible persons. The university seeks to achieve these goals through sound educational programs and policies governing individual conduct that encourage independence and maturity. By accepting membership in this university, an individual joins a community characterized by free

expression, free inquiry, honesty, respect for others, and participation in constructive change. All rights and responsibilities exercised within this academic environment shall be compatible with these principles.

- B. *Rights and Responsibilities*: Students shall be free to examine all questions of interest to them and to express opinions. They shall be guaranteed all constitutional rights including free inquiry, expression, and assembly. All regulations shall seek the best possible reconciliation of the principles of maximum academic freedom and necessary order. It is each student's responsibility to know and comply with the SIUC Student Conduct Code. It is each student's obligation to keep Admissions and Records advised of his/her current local address. Any behavior which has been influenced by a student's use of drugs or alcohol will not limit the student's responsibility for his/her actions.
- C. *Title/Authority/Enforcement*: These regulations shall be known as the Student Conduct Code for Southern Illinois University at Carbondale. The regulations contained herein are established under the authority granted by law to the Board of Trustees to establish rules and regulations for Southern Illinois University and pursuant to 3 *Policies C* of the Board of Trustees authorizing the chancellor to develop regulations dealing with student rights and conduct. All students of the campus community have the responsibility to comply with these regulations. The responsibility for the enforcement of this code rests with the chancellor of Southern Illinois University at Carbondale.¹
- D. *Jurisdiction*: The campus community has a responsibility to provide its members those privileges, opportunities, and protections which encourage and maintain an environment conducive to educational development. Accordingly, this code shall apply to 1) conduct occurring on property owned or controlled by the university, and 2) conduct occurring elsewhere, but only if the student's conduct has substantially interfered with the university's educational functions, including, but not limited to, interference with the educational pursuits of students, faculty, or staff or conduct having its origins in the educational process. A student's conduct substantially interferes with the educational functions of the university if the conduct is intentional or recklessly disregards the safety of others and results in personal injury or property damage to a member of the campus community (anywhere) or results in personal injury or property damage with respect to any other person if it occurs within the City of Carbondale or in other locations adjacent to university-owned or controlled property.

When a student has been apprehended for violation of a law, the university will not request special consideration because of the individual's status as a student. The university will cooperate fully with law enforcement and other agencies administering a corrective or rehabilitative program for the student. Where a student's conduct allegedly violates local, state, or federal laws and, at the same time, violates the Student Conduct Code, either on or off campus, the university reserves the option of initiating disciplinary action on its own even if criminal charges are brought by the appropriate authority. Disciplinary action by the university is not subject to challenge or postponement on grounds that criminal charges involving the same

¹Whenever the term chancellor or vice chancellor is used in this policy, the term shall apply not only to the person holding the title but also to his/her designees.

incidents have been dismissed, reduced or are pending against the individual.

Academic dishonesty violations in the School of Law will be adjudicated through that unit's Professional Ethics Policy. Academic dishonesty violations in the School of Medicine will be adjudicated through that unit's Student Progress System. Law students and medical students on the Carbondale campus charged with other violations of this code will be treated as any undergraduate or graduate student. In addition, law students charged with violations of social misconduct may also be charged under the School of Law's Professional Ethics Policy and medical students on the Carbondale campus charged with violations of social misconduct may also be charged under the School of Medicine's Student Progress System.

A student's behavior will be subject to an administrative review (see "Student Behavior: Policy and Procedures for Administrative Review") if it is determined by the Dean of Students that the behavior warrants immediate action because it

1. represents a danger to self or others; or
2. substantially or repeatedly disrupts the academic environment and thus interferes with the academic pursuits of others; or
3. substantially or repeatedly impedes the lawful activities of others on the SIUC campus or at SIUC events.

E. Definitions:

"Academic Officer" means any instructor, department chair, dean, director, or coordinator within Academic Affairs or the Center for Basic Skills.

"Adjudication" means the formal resolution of disciplinary charges, including the appeal process.

"Admission" means admission, readmission, re-entry, registration, and re-registration as a student in any educational program at Southern Illinois University at Carbondale.

"Adviser" means any person selected by a student, whether faculty, staff, student or non-university individual (including a lawyer) to assist him/her in the preparation of his/her case. A principal or witness may not be an adviser.

"Appeal" means a process for reviewing an earlier decision.

"Board" means the Board of Trustees of Southern Illinois University.

"Chancellor" means that individual appointed by the Board as the chief operating, administrative, and academic officer of Southern Illinois University at Carbondale.

"Charge" means an accusation of a violation of the Student Conduct Code of Southern Illinois University at Carbondale.

"Code" means the Student Conduct Code for Southern Illinois University at Carbondale.

"Days" means all days when the university is open for business.

"Formal" disciplinary procedures are disciplinary procedures used when the question of guilt is contested or when the student accepting responsibility for the disciplinary charges prefers to have a full hearing on the sanction.

"Informal" disciplinary procedures are disciplinary procedures used when the question of guilt is not contested and the student prefers to have an immediate decision on the sanction.

"Instructor" means any teaching assistant or member of the faculty.

“Members of the campus community” means the members of the Board of Trustees, employees, volunteers and registered students of Southern Illinois University at Carbondale.

“Sanction” means a measure imposed on account of violation of this code.

“Student” means any person registered for, enrolled in, or auditing one or more classes.

“University” means Southern Illinois University at Carbondale.

“University official” means any individual authorized or directed by the chancellor to perform any delegated function.

“Violation” means a breach of conduct governed by this code. The standard of proof used shall be a preponderance of the evidence.

II. Violations

A. *Acts of Academic Dishonesty:*

1. Plagiarism, representing the work of another as one’s own work;
2. Preparing work for another that is to be used as that person’s own work;
3. Cheating by any method or means;
4. Knowingly and willfully falsifying or manufacturing scientific or educational data and representing the same to be the result of scientific or scholarly experiment or research;
5. Knowingly furnishing false information to a university official relative to academic matters;
6. Soliciting, aiding, abetting, concealing, or attempting conduct in violation of this code.

B. *Acts of Social Misconduct:*

1. Violence
 - a. Sexual Assault (includes any form of coerced sexual activity including, but not limited to, rape or unwanted fondling or unwanted touching)
 - b. Physical Abuse
 - c. Direct threat of violence and/or intimidation
 - d. Intentional obstruction or substantial interference with any person’s right to attend or participate in any university function
 - e. Participation in any activity to disrupt any function of the university by force or violence
 - f. Reckless behavior representing a danger to others
2. Property Damage
 - a. Arson
 - b. Willful or malicious damage or destruction of property
 - c. Reckless behavior representing a danger to property including, but not limited to, threatening to damage a person’s property
3. Weapons (unauthorized possession and/or use)
 - a. Firearms
 - b. Explosives and explosive devices
 - c. Any type of arms defined as weapons in 720 Ill. Comp. Stat. 5/33A
 - d. Pellet guns and B-B guns
 - e. Fireworks
4. Disobedience
 - a. Failure to comply with directions of university or public officials acting in the performance of their duty
 - b. Trespassing
 - c. Unauthorized entry

5. Deception
 - a. Furnishing false information to the university with intent to deceive
 - b. Forgery, alteration or misuse of university documents, records, and identification cards
 - c. Forgery or issuing a bad check with intent to defraud
6. Theft
 - a. Misappropriation or conversion of university funds, supplies, equipment, labor, material, space, or facilities
 - b. Possession of stolen property
7. Actual or attempted abuse of computer time, including, but not limited to,
 - a. unauthorized entry into a file to use, read, or change the contents, or for any other purpose;
 - b. unauthorized transfer of a file;
 - c. unauthorized use of another's identification and/or password;
 - d. use of computing facilities to interfere with the work of another student, faculty member, or university official;
 - e. use of computing facilities to interfere with normal operation of the university computing system;
 - f. knowingly causing a computer virus to become installed in a computer system or file.
8. Safety
 - a. Intentionally entering false fire alarms
 - b. Bomb threats
 - c. Tampering with fire extinguishers, alarms, or safety equipment or engaging in behavior which constitutes a significant fire hazard
 - d. Tampering with elevator controls or equipment
 - e. Failure to evacuate during a fire, fire drill, or false alarm
9. Cannabis or controlled substances (as defined in 720 Ill. Comp. Stat. 550 and 570)
 - a. Manufacture
 - b. Sale or delivery
 - c. Unauthorized possession and/or use
10. Hazing (as defined in 720 Ill. Comp. Stat. 120)—Hazing is defined as any action required of or imposed on current or potential members of a group which, regardless of the consent of the participants, produces or is reasonably likely to produce bodily harm, humiliation or ridicule, substantial interference with academic efforts, or significant impairment or endangerment of physical well-being.
11. Harassment—Any invasion of personal privacy which produces or is reasonably likely to result in the humiliation or ridicule of the target or which interferes with the academic efforts of the target. Information obtained with the consent of the target individual which is subsequently disclosed without consent of the target, if such disclosure results in the humiliation or ridicule of the target, shall constitute harassment in violation of this code.
12. Stalking
 - a. A person commits stalking when he or she, knowingly and without lawful justification, on at least 2 separate occasions, follows another person or places the person under surveillance or any combination thereof and

- 1) at any time transmits a threat to that person of immediate or future bodily harm, sexual assault, confinement or restraint; or
- 2) places that person in reasonable apprehension of immediate or future bodily harm, sexual assault, confinement, or restraint.
- b. For the purpose of this section, a person “places a person under surveillance” by remaining present outside the person’s place of residence, classroom, or other building on campus.
- c. For the purpose of this section, “follows another person” means
 - 1) to move in relative proximity to a person as that person moves from place to place or
 - 2) to remain in relative proximity to a person who is stationary or whose movements are confined to a small area.
- d. Exemption: This section does not apply to any exercise of the right of free speech or assembly that is otherwise lawful.
13. Disorderly conduct
14. Violations of University Housing regulations
15. Violations of other duly promulgated university policies or regulations, including, but not limited to, alcohol, demonstrations, pets, smoking, solicitation, and guidelines for access to data and programs stored on the computer
16. Acts against the administration of this code:
 - a. initiation of a complaint or charge knowing that the charge was false or with reckless disregard of its truth;
 - b. interference with or attempt to interfere with the enforcement of this code, including, but not limited to, intimidation or bribery of hearing participants or prospective witnesses, acceptance of bribes, dishonesty or disruption of proceedings and hearings held under this code;
 - c. failure to comply with terms of any disciplinary sanction or attached conditions imposed in accordance with this code.
17. Soliciting, aiding, abetting, concealing, or attempting conduct in violation of this code

III. Sanctions

The following are sanctions which may be imposed for a violation of this code. Conditions may accompany a sanction. Conditions include, but are not limited to, restitution of damages, work projects, required counseling or therapy, required academic performance, etc. A condition may include loss of certain university privileges. If a condition accompanies a sanction, the condition must be related to the violation.

- A. *Failure of an assignment, quiz, test, examination, or paper*: A failing grade (F) may be assigned for the work in connection with which the violation occurred.
- B. *Failure in a course*: A failing grade (F) may be assigned for the course in which the violation occurred.
- C. *Revocation of a Degree*: An academic degree previously awarded by the university may be revoked on proof that it was obtained by fraud or that a significant part of the work submitted in fulfillment and indispensable to the requirements of such a degree was plagiarized.
- D. *Disciplinary Reprimand*: In cases of minor violations and when the violation is acknowledged by the student, a written reprimand may be issued by the coordinator of Student Judicial Affairs, or his/her designee, upon recommendation of a university official. The purpose of the reprimand shall be to call to the student’s attention the responsi-

bility of meeting certain minimal community standards. Since a reprimand is given only when the violation is acknowledged, the sanction may not be appealed.

- E. *Disciplinary Censure*: Disciplinary censure is a written warning to the student that the cited behavior is not acceptable in the campus community and that further misconduct may result in more severe disciplinary action. The student may appeal the finding of a violation but may not appeal the severity of the sanction.
- F. *Disciplinary Probation*: Disciplinary probation removes a student from good disciplinary standing. The probation shall last for a stated period of time and until specific conditions, if imposed, have been met. Any misconduct during the probationary period will bring further disciplinary action and may result in suspension. Probationary status prevents the student from representing the university in some extracurricular activities and may result in the loss of financial assistance.
- G. *Disciplinary Suspension*: Disciplinary suspension is an involuntary separation of the student from the university for a stated period of time and until a stated condition has been met, if imposed, after which readmission will be permitted. A notation is entered on the student's transcript and will remain there for the duration of the suspension. When the suspension is concluded, the notation will be removed.
- H. *Indefinite Suspension*: Indefinite suspension is an involuntary separation of the student from the university for an unprescribed period of time and until a stated condition, if imposed, has been met. Any consideration for readmission requires a written petition to the appropriate administrative official before readmission will be considered. A notation is entered on the student's transcript and will remain there for the duration of the suspension. When the suspension is concluded, the notation will be removed.
- I. *Additional Sanctions Associated with Suspension*:
 - 1. A student suspended from SIUE may not enroll at SIUC unless the suspension has expired.
 - 2. Students shall not be awarded degrees if, at the time of commencement, they are subject to disciplinary action or to charges under this code that could lead to suspension,
 - 3. A student separated from the university for disciplinary reasons is subject to the normal guidelines for the refund of tuition and fees, the issuance of grades, and the imposition of financial penalties for terminating a housing contract.
 - 4. If the conduct which led to disciplinary separation constitutes an ongoing threat to the safety of the university, its employees, or its students, the sanction may be accompanied by a condition which bars the disciplined student from university property.

IV. Interim Suspension

If the chancellor or vice chancellor for Student Affairs has reasonable cause to believe that a serious and direct threat to the safety and well-being of the members and/or property of the campus community will be present if an individual is permitted to remain an active member of the community, he/she may impose an interim suspension. A preliminary hearing shall be afforded unless it is impossible or unreasonably difficult to conduct a preliminary hearing prior to the interim suspension, in which case the individual shall be afforded the opportunity for such a preliminary hearing at the earliest practical time. The purpose of the preliminary hearing is to determine if there is justification to invoke an in-

terim suspension. During the preliminary hearing, the student will be provided a statement of the reasons for interim suspension and will be afforded an opportunity to rebut. Interim suspension is temporary and shall be enforced only until the completion of a full disciplinary hearing. A full disciplinary hearing shall be provided within a reasonable period of time. Following are the procedures for imposing and adjudicating an interim suspension.

- A. At any time following the submission of a written referral from the coordinator of Judicial Affairs or the Department of Public Safety, the chancellor or vice chancellor for Student Affairs may alter or suspend the rights of a student to be present on campus or to attend classes for an interim period prior to resolution of a disciplinary proceeding. The chancellor or vice chancellor for Student Affairs will base his/her decision on available information and whether the continued presence of the student on campus reasonably poses a threat to the physical or emotional condition and welfare of any member of the campus community or to the safety and welfare of university property or any of its functions.
- B. The decision to suspend the rights of a student for an interim period will be communicated in writing to the student and will become effective immediately. Notification will be hand-delivered or sent by certified mail to the last address provided to Admissions and Records. Failure or refusal to accept receipt of notification will not negate or postpone said action.
- C. Interim suspension will remain in effect until a final decision has been made on the pending charges or until the chancellor or vice chancellor for Student Affairs determines that the reason for imposing the interim suspension no longer exists.
- D. A student who is suspended for an interim period will be provided an opportunity to respond to the conditions which were alleged to have warranted the interim suspension no later than 4 days following the effective date of the interim suspension. The student has the right to an adviser and to present any argument and/or documentation disputing the appropriateness of the interim suspension.
- E. The issue at the interim suspension hearing shall be to determine if any condition specified in Section IV (paragraph 1) above is present and an interim suspension is warranted.
- F. The chancellor's or vice chancellor's decision may be rendered orally but shall be confirmed in writing within 5 days after the hearing with written notice provided to the student either delivered personally or by regular mail at his/her current address as maintained by Admissions and Records.
- G. If the chancellor or vice chancellor determines that conditions specified in Section IV (paragraph 1) above are not present or that an interim suspension is not warranted, the case shall proceed as a formal adjudication as provided in section VI.C.
- H. When an interim suspension is imposed, a hearing on the underlying allegations of misconduct shall be held within 10 days of the imposition of the interim suspension unless the student agrees to a later date.
- I. The chancellor's or vice chancellor's decision to impose an interim suspension in accordance with this section shall be final, pending resolution of the disciplinary charge.

V. Procedures Applicable to Academic Dishonesty

A. Jurisdiction:

1. **Department Level:** The department chair shall have initial jurisdiction over complaints of academic dishonesty and may adjudicate the case if the student accepts responsibility for the violation. In a case where the student does not accept responsibility for the violation, the chair shall review the complaint of alleged academic dishonesty and decide whether there are sufficient grounds to formally charge the student with a violation of this code. When social misconduct is also involved in an incident of academic dishonesty, the chair shall charge the student with all violations. All charges shall be adjudicated under the provisions for academic dishonesty.
 2. **College Level**
 - a. Each dean has the responsibility for the formal resolution of charges against a student. For the purpose of administering this code, the Graduate School dean shall operate at the level of other deans.
 - b. Charges of falsifying information on applications for admission shall be adjudicated by the director of Admissions and Records, who, for the purpose of administering this code, shall operate at the level of other deans.
- B. Informal Resolution:**
1. **Informal Hearing:** In cases where the student admits to a violation of this code relating to academic dishonesty, the matter may be adjudicated at the department level. An informal discussion between the instructor and the student shall be held. If the student admits to a violation of this code, the instructor shall inform the department chair and the student whether, as a sanction for the violation, the instructor will assign a failing grade for the work and/or course. The instructor shall also recommend to the chair any other sanction that may be imposed, pursuant to V.B.2. The chair shall meet with the instructor and the student, receive the acknowledgment of responsibility from the student, receive the recommendation from the instructor, and apprise the student of the sanction.
 2. **Sanctions:** The full disciplinary history of the student shall be considered in determining sanctions. Sanctions which may be imposed when the student accepts responsibility for the conduct are as follows:
 - a. The student may be removed from the class for the remainder of the testing period.
 - b. The instructor may assign the student a failing grade for the work and/or course.
 - c. The student may be placed on disciplinary probation.
 - d. Any combination of the above.
 - e. The department chair may recommend to the dean that the student be suspended from the university. The department chair shall also inform the student in writing that a disciplinary suspension is recommended as the appropriate sanction for the student's violation of this code.
 - 1) If the student elects to challenge the severity of the recommended suspension, the student may request an informal hearing on the proposed sanctions before the dean.
 - 2) The student must submit a request in writing for an informal hearing on the proposed sanctions within 5 days of receipt of the chair's recommendation if personally served

on the student or 7 days from the date of the decision if it was mailed to the student.

- 3) In such cases the dean or his/her designee shall meet with the student, the chair, and/or instructor and apprise the student of the sanctions.
3. Notification: The department chair shall send written verification of the sanctions to the student. Such notification will normally be sent within 5 days of the meeting with the instructor and the student.
4. Appeal: The student may appeal the severity of the sanction or failure to follow prescribed procedure, pursuant to V.C.8. A student may not appeal the question of guilt.

C. *Formal Disciplinary Procedures:*

1. Initiation of a Complaint: Any member of the campus community may initiate disciplinary proceedings by filing a complaint within 20 days of discovery of an alleged violation of the Student Conduct Code.
 - a. The complaint must be made in writing with all available evidence attached.
 - b. The complaint shall be filed with the department chair of the unit in which the violation is alleged to have occurred.
 - c. The complaint may include a recommendation concerning the appropriate sanctions to be imposed if, following formal adjudication, the student is found in violation of this code.
 - d. In any case initiated by an instructor, the complaint shall state whether or not the instructor will assign a failing grade for the work and/or course if, following formal adjudication, the student is found in violation of this code in the manner alleged in the complaint. In any such case, the instructor shall assign an "Incomplete" in lieu of a letter grade pending adjudication and final resolution of the complaint.
2. Formal Charges: The department chair shall review the complaint and, within 10 days, determine whether there are grounds to believe a violation may have occurred.
 - a. If there are sufficient grounds to believe a violation may have occurred, within 5 days of such determination, the chair shall notify the student in writing of the violation with which the student is charged. A copy of the charges shall be submitted to the appropriate academic dean.
 - b. If there are no grounds for disciplinary charges, the complainant shall be notified. If the complainant wishes to proceed with a disciplinary charge, a written request must be submitted to the appropriate academic dean within 5 days. The dean shall review the request, the complaint, and the department chair decision and decide whether to allow the complainant to pursue formal charges of the alleged violation set forth in the complaint.
3. Formal adjudication: In cases of alleged academic dishonesty where guilt is disputed by the student, the case will be adjudicated at the dean's level with a formal hearing. The dean shall notify the student in writing regarding the date, time, and place of the hearing. The notification will be considered to have been delivered if the notice is sent to the current local address of the student as provided to Admissions and Records by the student. Thus, failure to notify the university of changes of address could result in a hearing being held *in absentia*.

- a. The student has the right to
 - 1) be apprised of all evidence;
 - 2) decline to offer evidence which may be self-incriminating;
 - 3) receive a written decision specifying judicial actions;
 - 4) appeal the decision, pursuant to V.C.8.
 - 5) advisory assistance (The responsibility for selecting an adviser is placed on the charged student. The adviser may be any individual except a principal in the hearing. The adviser shall be limited to advising the student and shall not participate directly in the hearing except by permission of the hearing agent and then only when the hearing agent finds special circumstances such as a party's inability or difficulty communicating.);
 - 6) an open or closed hearing;
 - 7) hear and question available witnesses;
 - 8) have witnesses testify in his/her behalf.

While sworn statements will be accepted from those persons unable to attend the hearing, they may not constitute the sole form of evidence offered. The student must provide, in addition to such sworn statements, substantial corroborating evidence, either in the form of testimony by live witness or in the form of circumstantial evidence. Character witnesses may be excluded by the hearing agent.

- b. Hearing agent: The charged student may submit a preference for a hearing before a judicial board or the dean or his/her designee. The dean shall decide the hearing agent.

4. Judicial Hearing Board

- a. A judicial board shall be composed of 7 members. A quorum required to conduct a hearing shall be 5 members. A decision shall be reached by majority vote.

- b. Membership

- 1) Student members shall meet the following standards:
 - a) be full-time as defined by the director of Admissions and Records;
 - b) be in good disciplinary standing since matriculation;
 - c) have a minimum grade point average of 2.5 (undergraduate) or 3.0 (graduate) or be in good standing (professional student).

Full-time university employees who are enrolled in classes may not serve as student members. Graduate assistants and student workers in the department in which the incident occurred shall be excluded from the judicial board.

- 2) Faculty member may be any person with a faculty appointment, excluding administrators.
- 3) All appointments shall be reviewed by Student Judicial Affairs to insure that candidates meet the minimum requirements. A list of judicial board members may be obtained from the dean.
- c. Administrative Advisers: Each judicial board shall have an administrative adviser from Student Judicial Affairs. The adviser's role shall be limited to providing guidance and clarification. The adviser shall sit with the panel in both open and executive sessions.

- d. Terms: Each judicial board shall be in session for 12 weeks during the fall and spring terms and for 4 weeks during the summer term. A board is not expected to meet during the first 2 nor the last 2 weeks of a term. Disciplinary cases shall be adjudicated by an administrative hearing officer designated by the dean when a board is not in session or is defunct.
 - e. Powers: A judicial board shall make a decision of guilt or innocence and shall recommend appropriate sanctions to the dean.
5. Judicial Hearings
- a. Time limitations
 - 1) A student electing formal adjudication shall be notified of the hearing date, which will occur no sooner than 5 days after receiving notice of a scheduled hearing or 7 days from the date of a mailed written notice.
 - 2) A student shall have 5 days after receiving notification of the decision in which to submit an appeal.
 - b. Failure to appear: Initial jurisdiction hearings shall be held *in absentia* when the charged student fails to appear. An appeal shall be dismissed when the student fails to appear.
 - c. Tape recordings: All formal judicial hearings shall be tape recorded. After the appeal period has expired, the tape may be erased. Copies of hearing tapes will be made available to the charged student upon his/her request and at his/her expense.
 - d. Challenge for cause: A student may challenge panel members for cause. The decision to remove a panel member will be made by majority vote of the other panel members.
 - e. Confidentiality: All evidence, facts, comments, and discussion at a closed hearing and all executive sessions shall be held in strict confidence. Failure to maintain confidentiality may result in removal of judicial board members by the dean.
6. Sanctions: A student's disciplinary history shall have no bearing on the question of guilt or innocence. If, however, a student is found to be in violation of this code, the full disciplinary history shall be considered in determining the sanction. The academic dean shall request the student's disciplinary record from Student Judicial Affairs. The academic dean and the coordinator of Student Judicial Affairs shall develop lines of communication to keep each other apprised of a student's disciplinary history, for this purpose. Sanctions which may be imposed are as follows:
- a. the student may be assigned a failing grade for the work and/or course;
 - b. the student may be placed on disciplinary probation;
 - c. the student may be suspended from the university;
 - d. any combination of the above.
7. Notification: The dean shall send written notification of the results of the hearing and the sanctions to be imposed to the student. Such notification will normally be sent within 5 days of receipt of the judicial board's recommendation or within 5 days of the administrative hearing.
8. Appeals
- a. Request for appeal must be submitted in writing within 5 days after receiving notification of the decision of a formal adjudication.

- b. Failure to request an appeal in a timely manner constitutes a waiver of any right to appeal.
 - c. Appeals must be submitted in writing to the vice chancellor for Student Affairs in cases of social misconduct or the vice chancellor for Academic Affairs in cases of academic misconduct.
 - d. The basis of an appeal will be limited to the following grounds:
 - 1) there was a procedural error which substantially affected the outcome of the hearing;
 - 2) there is no evidence in the record to support a finding of violation of this code;
 - 3) there is new or newly discovered evidence which may substantially affect the outcome of the hearing;
 - 4) the sanction is excessively severe.
 - e. An appeal is not a rehearing. It is a procedural safeguard.
 - f. In an appeal, the burden of proof is shifted from the university to the student charged with the violation of the Student Conduct Code.
 - g. A suspension shall take effect as soon as the time for filing an appeal has expired or, if an appeal is filed, as soon as the vice chancellor has issued his/her decision. The vice chancellor's decision is the final decision at the campus level.
 - h. A student may appeal the final campus decision in accordance with Article VI of the *Bylaws* of the Board of Trustees of Southern Illinois University. If a timely appeal is filed with the Board of Trustees, the student may petition the chancellor to stay his/her suspension. The chancellor may permit attendance under such conditions as may be designated pending completion of appeal if continued attendance is not seriously disruptive of any university activities or does not constitute a danger to the health, safety or welfare of any member of the community. In accordance with Board of Trustees policy, a student will not be eligible to graduate while an appeal is pending.
9. Implementation of Sanction
- a. The disciplinary sanction shall be implemented when the student has waived or exhausted the right of campus appeal, or the campus appeal period has expired.
 - b. The sanction shall be specified by the final adjudicating agent. However, when the sanction relates to the assignment of a grade, the instructor has the responsibility for assigning the grade. In a case where an "Incomplete" was assigned for a course, pending adjudication of charges of academic dishonesty against the student, the instructor shall immediately change the "Incomplete" to an appropriate letter grade.
 - c. A student separated from the university for disciplinary reasons is subject to the normal guidelines for the refund of tuition and fees, the issuance of grades, and the imposition of financial penalties for terminating a housing contract.
 - d. Following the implementation of the sanction, all records relating to the case will be filed with Student Judicial Affairs.

VI. Procedures Applicable to Social Misconduct

- A. *Jurisdiction*: A case may be resolved informally by a university official in a department as authorized by the coordinator of Student Judicial Affairs, pursuant to VI.B.1. All cases in which guilt is disputed

shall be referred to Student Judicial Affairs. The campus Judicial Board for Discipline and/or the coordinator of Student Judicial Affairs has initial jurisdiction over social misconduct not handled by informal resolution.

B. *Informal Resolution:*

1. **Informal Hearing:** In cases where the student accepts responsibility for the social misconduct, the matter may be adjudicated at the department level. An informal discussion between the university official and the student shall be held. If the student accepts responsibility for the social misconduct, the university official shall recommend a sanction to the coordinator of Student Judicial Affairs.
2. **Sanctions:** The full disciplinary history of the student shall be considered in determining the sanction. The university official may recommend to the coordinator of Student Judicial Affairs either disciplinary reprimand or disciplinary censure.
3. **Notification:** The coordinator of Student Judicial Affairs shall send written verification of the sanction to the student within 5 days of the receipt of the recommendation.
4. **Appeals:** The student may not appeal the sanction imposed if the sanction is either disciplinary reprimand or disciplinary censure. A student may not appeal the question of guilt.

C. *Formal Disciplinary Procedures:*

1. **Judicial Hearing Agents**
 - a. The administrative hearing officer will be the coordinator of Student Judicial Affairs or his/her designee.
- b. **Judicial Review Boards**
 - 1) There are two possible Judicial Review Boards:
 - a) The Housing Judicial Board will handle allegations of violation of this code within University Housing.
 - b) The Campus Judicial Board shall handle all other alleged violations of this code.
 - 2) **Size:** A judicial board shall be composed of 7 members. A quorum required to conduct a hearing shall be 5 members. A decision shall be reached by majority vote.
 - 3) **Membership**
 - a) Student members shall meet the following standards:
 - 1) be full-time as defined by the director of Admissions and Records;
 - 2) be in good disciplinary standing since matriculation;
 - 3) have a minimum grade point average of 2.5 (undergraduate); 3.0 (graduate), or be in good standing (professional student).Full-time university employees who are enrolled in classes may not serve as student members.
 - b) All appointments shall be reviewed by Student Judicial Affairs to insure that candidates meet the minimum requirements. A list of judicial board members may be obtained from Student Judicial Affairs.
 - 4) **Judicial Board Operating Papers:** Each board may develop its own operating paper. Each operating paper shall be reviewed by Student Judicial Affairs to insure consistency with the provisions of this code.
 - 5) **Administrative Advisers:** Each judicial board shall have an administrative adviser from Student Judicial Affairs.

The adviser's role shall be limited to providing guidance and clarification. The adviser shall sit with the panel in both open and executive sessions.

- 6) Terms: Each judicial board shall be in session for 12 weeks during the fall and spring terms and for 4 weeks during the summer term. A board is not expected to meet during the first 2 nor the last 2 weeks of a term. Disciplinary cases shall be adjudicated by an administrative hearing officer when a board is not in session or is defunct.
 - 7) Powers: A judicial board shall make a decision of guilt or innocence and shall recommend the sanction to the appropriate administrator.
2. Initiation of a Complaint
 - a. Any member of the university community may initiate disciplinary proceedings by filing a complaint with the coordinator of Student Judicial Affairs within 20 days of the discovery of an alleged violation of the Student Conduct Code. The complaint must be in writing with all available evidence attached.
 - b. The coordinator of Student Judicial Affairs shall make a preliminary review of the complaint. If there are no grounds for disciplinary charges or if the complaint should be processed under another policy, the complainant shall be notified. If the complainant wishes to proceed with a disciplinary charge, a written request must be submitted to the Dean of Students within 5 days of the receipt of the coordinator's notification. The Dean of Students shall review the request, the complaint, and the decision of the coordinator of Student Judicial Affairs and decide whether to pursue formal charges.
 3. Formal Charges: In cases of alleged social misconduct when guilt is disputed by the student, the case will be adjudicated at the appropriate level with a formal hearing. The coordinator of Student Judicial Affairs shall notify the student in writing regarding the charges as well as the date, time, and place of the hearing. The notification will be considered to have been delivered if the notice is sent to the current local address of the student provided to Admissions and Records by the student. Thus, failure to notify the university of changes of address could result in hearings being held *in absentia*.
 4. Fact-Finding Conference: The coordinator of Student Judicial Affairs shall conduct a fact-finding conference which shall include the charged student and may include the complainant and/or witnesses.
 - a. Matters to be examined at the fact-finding conference are
 - 1) the charges filed against the student;
 - 2) the evidence against the student;
 - 3) the witnesses, if any, who shall testify;
 - 4) the provisions of the Student Conduct Code;
 - 5) whether to continue disciplinary procedures.
 - b. The student may elect to acknowledge the violation and have a sanction imposed by the coordinator of Student Judicial Affairs at the conference. If this option is chosen, the student may appeal only the severity of the sanction. If the student does not accept responsibility for the violation, the coordinator of Student Judicial Affairs may elect to refer the matter to a formal hearing.

- c. The student may elect to have a formal hearing scheduled in the future.
- d. If the student fails to make an appointment or keep a scheduled appointment for a fact-finding conference, the case may automatically be referred to the appropriate hearing agent for a hearing.

5. Formal Adjudication

- a. The student has the right to
 - 1) be apprised of all evidence;
 - 2) decline to offer evidence which may be self-incriminating;
 - 3) receive a written decision specifying judicial actions;
 - 4) appeal the decision, pursuant to V.C.8;
 - 5) advisory assistance (The responsibility for selecting an adviser is placed on the charged student. The adviser may be any individual except a principal in the hearing. The adviser shall be limited to advising the student and shall not participate directly in the hearing except by permission of the hearing agent and then only when the hearing agent finds special circumstances such as a party's inability or difficulty communicating.);
 - 6) an open or closed hearing;
 - 7) hear and question available witnesses;
 - 8) have witnesses testify in his/her behalf.

While sworn statements will be accepted from those persons unable to attend the hearing, they may not constitute the sole form of evidence offered. The student must provide, in addition to such sworn statements, substantial corroborating evidence, either in the form of testimony by live witness or in the form of circumstantial evidence. Character witnesses may be excluded by the hearing agent.

- b. Hearing agent: The charged student may submit a preference for a hearing before a judicial board or the coordinator of Student Judicial Affairs or coordinator's designee. The coordinator will decide the hearing agent. Factors to be considered by the coordinator include but are not limited to privacy and reasonable availability of a judicial board.

6. Judicial Hearings

- a. Time limitations
 - 1) A student electing formal adjudication shall be notified of the hearing date, which will occur no sooner than 5 days after receiving notice of a scheduled hearing or 7 days from the date of a mailed written notice.
 - 2) A student shall have 5 days after receiving notification of the decision in which to submit an appeal.
- b. Failure to appear: Initial jurisdiction hearing shall be held in absentia when the charged student fails to appear. An appeal shall be dismissed when the student fails to appear.
- c. Tape recordings: All hearings shall be tape recorded. After the appeal period has expired, the tape may be erased. Copies of hearing tapes will be made available to the charged student upon his/her request and at his/her expense.
- d. Challenge for cause: A student may challenge panel members for cause. The decision to remove a panel member will be made by majority vote of the other panel members.

- e. Confidentiality: All evidence, facts, comments, and discussion at a closed hearing and all executive sessions shall be held in strict confidence. Failure to maintain confidentiality may result in administrative removal of the judicial board members by the coordinator of Student Judicial Affairs.
- 7. Sanctions: A student's disciplinary history shall have no bearing on the question of guilt or innocence. If, however, a student is found to be in violation of this code, the full disciplinary history shall be considered in determining the sanction. The coordinator of Student Judicial Affairs shall request the student's disciplinary records from the academic dean. The academic dean and the coordinator of Student Judicial Affairs shall develop lines of communication to keep each other apprised of a student's disciplinary history for this purpose. Sanctions which may be imposed are:
 - a. Disciplinary reprimand
 - b. Disciplinary censure
 - c. Disciplinary probation
 - d. Disciplinary suspension
 - e. Indefinite suspension
- 8. Notification: The coordinator of Student Judicial Affairs shall send written notification of the results of the hearing and the sanctions to be imposed, if any, to the student. Such notification will normally be sent within 5 days of receipt of the judicial board's recommendation or within 5 days of the administrative hearing.
- 9. Appeals: Any disciplinary determination or sanction involving social misconduct may be appealed as set forth in V.C.8.
- 10. Implementation of Sanction
 - a. The disciplinary sanctions shall be implemented when the student has waived the right of campus appeal or the campus appeal period has expired.
 - b. The sanction shall be as specified by the final adjudicating agent.
 - c. A student separated from the university for disciplinary reasons is subject to the normal guidelines for the refund of tuition and fees, the issuance of grades, and the imposition of financial penalties for terminating a housing contract.
 - d. Any type of disciplinary separation from the university may be accompanied by a condition which bars the student from university property.

VII. Amending Procedures

- A. *Review Committee*: At the request of any recognized constituency, the vice chancellor for Academic Affairs and provost, or the vice chancellor for Student Affairs, the chancellor shall appoint a committee to consider amendments to this code. The committee shall consist of 2 undergraduate students, 1 graduate or professional student, 2 faculty members, 1 academic dean, 1 representative from University Housing, 1 representative from Student Judicial Affairs, and 1 representative from the University Legal Counsel. The student and faculty members shall be designated by their appropriate constituencies. The vice chancellor for Student Affairs shall appoint a chair for the committee, who may be one of the members listed above.
- B. *Amendments*: The chancellor may propose to the president amendments to this code. Whenever the circumstances allow, due consideration shall be given to the recommendations of the committee pro-

vided for in the preceding paragraph. Amendment will be accomplished by the regular procedures for amendment of university policy.

- C. *Notification*: Any amendment of this code shall become effective after general notice of such change has been given to the student body, faculty, and administrative staff. General notice shall include, but not be limited to, public notification of approved amendments twice successively published in the *Daily Egyptian* in their entirety within 7 days after approval of said amendments by the president.

Academic Grievances Policy/Procedures

Graduate Student Academic Grievance Policy

Graduate students at SIUC shall have the right to appeal for redress of grievance through established channels under the conditions stated below. Access to these channels is restricted to complaints by graduate students alleging that some member of the university community has caused the student to suffer some specific harm related to a matter within the authority of the dean of the Graduate School. Grievances which have been brought to a hearing under another campus grievance procedure shall not be brought to a hearing under this procedure.¹

With respect to students' complaints alleging capricious grading, the following guidelines shall apply: Instructors are expected to evaluate student work according to sound academic standards. Equal demands should be required of all students in a class, and grades should be assigned without departing substantially from announced procedures. It is the instructor's prerogative to assign grades in accordance with his/her academic/professional judgment, and the student assumes the burden of proof in the appeals process. Grounds for appeals include: (1) the application of non-academic criteria in the grading process, as listed in the University's non-discrimination and affirmative action statements: race, color, sex, national origin, religion, age, sexual orientation, marital status, or handicap; (2) the assignment of a course grade by criteria not directly reflective of performance relative to course requirements; (3) the assignment of a course grade by standards different from those which were applied by the instructor to other students in the course.

GRADUATE STUDENT ACADEMIC GRIEVANCE PROCEDURE

A graduate student seeking redress through grievance must first attempt to resolve the matter informally by contacting the party against whom redress is sought (respondent). If the dispute is not resolved at this stage, the student should contact the respondent's departmental chair or another appropriate mediator, such as the university ombudsman, who will attempt to resolve the dispute.

In the event that the dispute is not resolved informally, a graduate student may ask for and receive a hearing before a departmental academic grievance committee. [Such a grievance will be governed by the procedures established by the academic unit in which the complaint arose. In the event an academic unit

¹Cases involving academic dishonesty will be handled according to the Student Conduct Code. Separate grievance procedures exist for cases covered by the University Policy on Sexual Harassment, the Policy Accommodating Religious Observances of Students, the Policy on the Release of Student Information and Access to Student Records at Southern Illinois University, the Policy on Immunization of Enrolled Students, the Policy on the Determination of Residency Status, and the University's response to comply with *Americans with Disabilities Act*. These procedures are published in the *Undergraduate Catalog*. Graduate students employed as student workers are covered by a student worker grievance procedure, which is administered by the Financial Aid Office.

has not established such procedures, the procedures outlined below shall govern the grievance.]

Departmental Grievance Procedure

FILING A GRIEVANCE

A graduate student desiring a hearing before a grievance committee of an academic department must submit a written request to the chair of the department no later than 30 calendar days¹ after the beginning of the semester following the incident in question, excluding summer term. A student may request an extension of the deadline in writing by petitioning the department chair. In the event that informal proceedings are continuing toward resolution, such a request shall normally be granted.

The request for a hearing must state the following:

1. Name of the grievant.
2. Program in which the grievant is enrolled.
3. Name of the grievant's major adviser.
4. Name and title of the person(s) against whom the grievance is being filed.
5. Current address and phone number of the grievant.
6. Statement of the grievance including descriptions of the incident(s) involved, date(s) of occurrence, what remedy is being sought, as well as any supporting documents.

DEPARTMENT ACTION ON GRIEVANCE

Upon receiving a written request for a hearing regarding an academic grievance, the department chair shall send the respondent a copy of the grievance, who will provide the chair with a written response within a reasonable time as stipulated by the chair. The chair shall then forward the grievance and response to the department graduate student grievance committee.²

The department chair shall notify the parties of the identity of the individuals who have been selected to serve on the grievance committee. The participation of any committee member may be challenged for cause. If the department chair determines that the challenge is valid, she/he shall name a substitute.

The committee chair shall request of both parties copies of any documents and a list of witnesses they wish to introduce. These should be submitted without delay. The committee chair shall convene a hearing within 20 days of receipt of the substantiating documents. These documents shall be available to both parties at least five days prior to the hearing.

The hearing shall be conducted by the committee according to the hearing procedures which are outlined in the Appendix.

In the absence of compelling circumstance, the committee shall make its recommendation on the grievance to the department chair within 10 working days after the conclusion of the hearing.

The department chair shall decide to accept or reject the committee's recommendations and render a decision on the grievance promptly. The decision and the reasons for it shall be submitted to the parties, the committee members, and the collegiate dean at the same time.

¹Hereafter, "day" refers to calendar day, unless defined otherwise.

²Department Graduate Student Grievance Committee: A department graduate student grievance committee will be advisory to the department chair and will submit its findings to the department chair. The committee shall consist of three members. The department chair may designate an existing department committee to serve in such a capacity (subject to the qualifications listed herein), or may appoint an ad-hoc graduate student grievance committee. The members of the committee shall be appointed wherever possible from the department/unit in the college in which the grievance arose. Of those three members, two shall be appointed from the senior graduate faculty and one shall be appointed from the graduate student body upon consultation with the leadership of the department graduate student organization. A department graduate student grievance committee shall meet and elect its chair from among its graduate faculty membership. Any faculty member involved in the dispute shall not be appointed to the grievance committee.

The department chair shall advise the parties of their right to appeal to the dean of the Graduate School. Hearings of appeals will not be automatically granted. Dissatisfaction with the decision shall not be sufficient grounds for appeal. The appellant must demonstrate that the decision at the department level was in error.

Appeals of Department Decisions to the Graduate School

FILING AN APPEAL

If a graduate student wishes to appeal a decision of the department she/he must file a written appeal with the dean of the Graduate School within 30 calendar days of receipt of the department decision. The appeal must state the following:

1. Name of the appellant.
2. Program in which the appellant is enrolled.
3. Name of the appellant's major adviser.
4. Name and title of the person(s) against whom the original grievance was filed.
5. Current address and phone number of the appellant.
6. Copies of the original statement of grievance, the response by the person against whom it was filed, supporting documents, as well as a statement of what remedy is being sought.
7. Summary of grievance proceedings held at the department level and the decision(s) rendered at that time.
8. Statement of why the previous decision may be in error.

The dean will promptly forward the material to the coordinator of the Student Appeals Committee of the Graduate School (SAC)¹. The SAC coordinator will solicit a reply to the appeal from the respondent. The coordinator will then promptly forward all materials to the committee members and will convene the committee at the earliest opportunity. The committee will decide by simple majority whether or not a hearing should be held. If a hearing is not granted, the coordinator shall forward all materials to the dean of the Graduate School and inform both parties of the reasons for the denial. If a hearing is granted the SAC coordinator shall request from the Graduate Council a list of graduate faculty members and from the Graduate and Professional Student Council a list of graduate students available to serve as hearing panel members. These persons may not be members of the same college as the parties to the grievance. The coordinator shall appoint a panel of three graduate faculty members and two graduate students and so notify the parties to the grievance. Panel members may be challenged for cause and, if the coordinator determines the challenge to be valid, she/he will name substitute(s) from the lists. The panel selects its own chair.

Procedures of the Student Grievance Committee of the Graduate School

Upon formation of the hearing panel, the SAC coordinator shall forward all materials to the hearing panel chair. The chair shall convene a hearing within 30 days.

The hearing shall be conducted by the hearing panel according to the procedures listed in the Appendix, with the exception that new evidence and testimony may be introduced only at the discretion of the panel. The hearing at this level will be limited to the bases of the appeal itself. New evidence will not normally be permissible.

The committee shall make its recommendation on the appeal to the dean within 10 working days after the conclusion of the hearing. The dean of the

¹Student Appeals Committee of the Graduate School: The Vice-Chair of the Graduate Council shall be the Coordinator of the SAC who will select three members of the Graduate Council (two faculty members, one student) to form a SAC as needed.

Graduate School shall decide to accept or reject the committee's recommendations and render a decision on the grievance promptly. The decision and the reasons for it shall be submitted to the parties, the hearing panel members, and the department chair.

All records of the appeal and hearing shall be deposited with the Graduate School upon completion of the hearing panel's work.

Appendix A

HEARING PROCEDURES

1. The principal parties to the grievance shall have the right to be accompanied by an adviser of their choice. The advisers may speak on behalf of their clients only with the approval of the committee.
2. All hearings shall be open unless either of the parties requests that the hearings be closed. If the hearing is closed, only the parties, their adviser, and the committee shall be present during the taking of evidence. Witnesses for either party shall be present only while giving testimony if the hearing is closed.
3. All hearings shall be tape recorded. The tape recording will be deposited in the office of the department chair at the conclusion of the hearing.
4. Each party may call witnesses to present evidence. Each party shall have the right to examine any witness called by the opposing party. If a witness is unable to appear the committee may allow written statements. If the presence of a witness is required to ensure fairness to all parties, the hearing may be continued until such witness is physically able to attend the hearing.
5. The committee will decide all matters, procedural and substantive, by simple majority vote.
6. Each party may make an opening and a closing statement.
7. Decisions by the panel will be based on a preponderance of the evidence.

Graduate School Procedures for Charges of Academic Dishonesty Leading to Possible Rescission of Degree

INTRODUCTION

Charges against a former student relating to acts of academic dishonesty in the submission of graduate degree requirements shall be handled to the extent feasible under the SIUC Student Conduct Code procedures applicable to charges relating to academic dishonesty. The dean of the Graduate School has the responsibility for the formal resolution of charges involving academic dishonesty in Graduate School programs. Since the Student Conduct Code procedures are not in all respects applicable to charges involving an individual no longer enrolled in the University, the following supplemental procedures will be followed for adjudicating such charges.

NOTIFICATION OF CHARGES

Charges against a former student involving allegations of academic dishonesty in the completion of graduate degree requirements shall be initiated by the dean of the Graduate School by letter to the individual, sent certified mail/return receipt requested, stating the specific charges, and the date, time, and place for the hearing, and enclosing a copy of the Student Conduct Code and these procedures. The charge letter shall be mailed no less than 20 business days in advance of the date of the hearing.

HEARING AGENT

Charges shall be heard by a five-member hearing committee, the members of which shall be appointed from those colleges/schools having graduate programs. Of the five members, three shall be appointed from the graduate faculty and two

shall be appointed from the graduate student body. The dean will seek nominations for a committee hearing a case from the Graduate and Professional Student Council for the graduate student members, and from the Graduate Council for the graduate faculty members. The committee will be demographically representative of the University insofar as possible. The academic unit from which the charge arose will not have a member appointed to the hearing committee. Once a hearing committee is constituted it shall meet and elect its own chair from among its graduate faculty membership. The individual charged shall have the right to challenge membership of the hearing committee as provided in the Student Conduct Code.

HEARING PROCEDURES

Hearings shall be conducted in accordance with the formal disciplinary procedures set forth in the Student Conduct Code. In addition, the following procedures shall govern the conduct of the hearing.

1. The individual charged shall have the right to be accompanied by an adviser of his/her choice. An adviser will be permitted to advise the individual in the hearing, and to speak on behalf of the individual and cross-examine witnesses with the consent of the hearing committee.
2. The dean of the Graduate School and the individual charged shall provide to the hearing committee a list of witnesses to be called and copies of any documents which they seek to introduce into evidence at the hearing. The committee chair will furnish copies of these to the other party. Such witness list and documents shall be provided to the hearing committee not less than 10 business days prior to the date scheduled for the hearing, and to the parties not less than 5 business days before the date of the scheduled hearing.
3. All hearings shall be closed unless the individual charged requests that it be open. If the hearing is closed, only the parties, their adviser, and the committee members shall be present during the taking of evidence. Witnesses for either party shall be present only while giving testimony.
4. All hearings shall be tape-recorded. The tape-recording will be submitted along with the entire case record and the committee's findings and recommendations to the dean of the Graduate School following conclusion of the hearing.
5. Each party may make an opening statement before the presentation of any evidence and a closing argument following the conclusion of all evidence.
6. The charges against the individual and witnesses testifying in support thereof shall be presented first. The individual charged shall have the right to respond to the charges and present witnesses and evidence in his/her own behalf.
7. Each party shall have the right to ask questions of any witness called by the other party. Members of the committee may also question witnesses.
8. Written statements in lieu of personal testimony may be used only with permission of the committee and only in the event a witness is physically unable to attend the hearing. The opposing party shall be given notice at least three days prior to the commencement of the hearing of the fact that an individual will not be physically present to give testimony and so that objection may be made to the use of written statements. If the committee determines that the actual presence of the witness is required to insure fairness to all parties, the hearing may be continued until such witness is physically able to attend the hearing.
9. The hearing committee will decide all matters, procedural and substantive, by simple majority vote.
10. In the absence of compelling circumstances, the committee shall make findings and recommendations on the charges to the dean of the Graduate

School within 15 business days after the conclusion of the hearing. The dean of the Graduate School shall render a decision, absent compelling circumstances, within ten business days after receipt of the committee's findings and recommendations. The decision and the reasons therefore shall be submitted to the individual charged by certified mail, return receipt requested, and to the committee chair. If the dean determines that additional evidence is necessary to decide the matter(s), the dean may remand the matter to the committee for the taking of further evidence, and in doing so, may limit the issues on which additional evidence may be taken. When a matter is remanded to the committee, the committee shall follow the procedures set forth above.

SANCTIONS

Sanctions which may be imposed include the completion of any additional academic requirements deemed necessary for continued holding of the degree, or, if it is found that the degree was improperly awarded because of academic dishonesty on the part of the former student in the submission of degree requirements, a recommendation that the degree be rescinded. A recommendation that a degree be rescinded will be made to the chancellor through the vice chancellor for Academic Affairs and Provost, and will require final action by the Board of Trustees of Southern Illinois University.

APPEAL

If the individual is not satisfied with the decision of the dean, a written argument stating the reasons for such dissatisfaction may be submitted to the vice president for Academic Affairs and provost within ten business days after the date that delivery of the decision was tendered by the U.S. Postal Service to the individual. Such written argument shall be attached to the dean's decision and remain therewith throughout the remainder of the process.

Retention

Any graduate student whose grade point average falls below 3.00 will be placed on academic probation. Faculty of a degree program-unit may determine its own grade point average requirements (above the grade point minimum for retention in their particular program.) All 400- and 500-level courses taken after a student is admitted to the Graduate School are considered graduate level, unless the course is specifically designated, Not for graduate credit, for all students. Grade point averages for doctoral students are based on graduate credit work completed at SIUC after admission to the doctoral program. Grade point averages for master's degree students and unclassified graduate students are based on all graduate credit work completed at SIUC.

Any graduate student on academic probation whose grade point average remains below 3.0 for two consecutive semesters in which she or he is enrolled, excluding summer sessions, will be permanently suspended from the Graduate School, unless the department and the collegiate dean petition the graduate dean for an exception.

Graduation

Graduation ceremonies are held each year at the end of each semester and summer session. Degree candidates must apply for graduation with the Graduate School by no later than the end of the first week of the semester or session in

which the student plans to graduate. Graduation application forms are available in the Graduate School and may be obtained by mail by writing that office.

A \$15 graduation fee is established for all persons receiving degrees. The fee is payable at the time of application or the fee will be charged to the student's account. The fee does not cover the rental fee for the cap, gown, and hood, or the cost of the invitations. These items are ordered through the University Book Store in the Student Center and questions regarding them should be referred to the University Book Store. Doctoral students are also required to pay a fee of \$60.00 to cover the cost of publication of the abstract and microfilming of the dissertation.

Final, approved copies of research reports, theses, and dissertations are due in the Graduate School office at the published deadline date. Contact the Graduate School for dates. Doctoral students must also submit the microfilming agreement form and the survey form of earned doctorates at the time the dissertation is submitted.

The Graduate School *Guidelines for the Preparation of Dissertations, Theses and Research Papers* is available at the Graduate School or on its website (www.siu.edu/gradschl). Since each program has chosen a manual style that must be used in conjunction with the Graduate School guidelines, the student should contact the department for additional departmental information.

Although attendance at commencement is not compulsory, students who wish to graduate in absentia must notify the Graduate School in advance. This information is needed for seating arrangements and for mailing purposes.

Posthumous Degrees

A graduate degree may be awarded posthumously if, before the student's death, work for the degree had substantially been completed. This determination shall be the responsibility of the graduate dean in consultation with the administrative officers and faculty of the degree program in which the student had been enrolled.

Release of Student Information and Issuance of Transcripts

The University follows a policy for release of student information in compliance with federal regulations. More specific information may be obtained from the Office of Admissions and Records or from the Graduate School.

A transcript of the student's official educational record is issued by the Office of Admissions and Records under the following conditions: a transcript is sent, issued, or released only upon a student's request or explicit permission, except that such permission is not required when the University faculty and administrative officials or other educational institutions request transcripts for official purposes.

In addition, requests will be honored from a philanthropic organization financially supporting a student and from a recognized research organization conducting educational research provided the confidentiality of the transcript is protected. One transcript will be issued directly to a student upon request. The transcript will have the statement, *Issued to the Student*, stamped on its face. Transcripts will be sent without charge to recipients other than the student as requested by the student. A transcript will not be sent, issued, or released if a student owes money to the University as verified by the Bursar's office.

University Policy Concerning Sexual Harassment

Southern Illinois University at Carbondale is committed to creating and maintaining a community in which students, faculty, and staff can work together in an atmosphere free of all forms of harassment, exploitation, or intimidation. Sexual harassment, like harassment on the basis of race or religion, is a form of discrimination expressly prohibited by law. It is a violation of Title VII of the federal Civil Rights Act of 1964 and Title IX of the Educational Amendments of 1972 and a civil rights violation of the Illinois Human Rights Act.

In addition to being illegal, sexual harassment runs counter to the objectives of the University. When people feel coerced, threatened, intimidated, or otherwise pressured by others into granting sexual favors, or are singled out for derision or abuse because of their gender, their academic and work performance is liable to suffer. Such actions violate the dignity of the individual and the integrity of the University as an institution of learning. Academic freedom can exist only when every person is free to pursue ideas in a non-threatening, non-coercive atmosphere of mutual respect. Sexual harassment is harmful not only to the persons involved but also to the entire University community.

The University will take whatever action is needed to prevent, stop, correct, or discipline behavior that violates this policy. Disciplinary action may include, but is not limited to, oral or written warnings, demotion, transfer, suspension, or dismissal for cause.

Definitions and Examples

Sexual harassment is defined as unwelcome sexual advances, requests for sexual favors, verbal or other expressive behaviors, or physical conduct commonly understood to be of a sexual nature, when:

- a. submission to, or toleration of, such conduct on or off campus is made, either explicitly or implicitly, a term or condition of instruction, employment, or participation in other University activities;
- b. submission to, or rejection of, such conduct is used as a basis for employment or for academic decisions or assessments affecting the individual's status as an employee or student; or
- c. such conduct has the purpose or effect of unreasonably interfering with an individual's status as a student or employee or creates an intimidating, hostile, or offensive work or educational environment.

Sexual harassment may involve the behavior of a person of either sex toward a person of the opposite or the same sex. Examples of behavior that would be considered sexual harassment include, but are not limited to, the following:

- a. physical assault;
- b. direct or implied threats that submission to sexual advances will be a condition of employment, work status, promotion, grades, or letters of recommendation;
- c. a pattern of conduct, annoying or humiliating in a sexual way, that includes comments of a sexual nature and/or sexually explicit statements, questions, jokes, or anecdotes;
- d. a pattern of conduct that would annoy or humiliate a reasonable person at whom the conduct was obviously directed. Such conduct includes, but is not limited to gestures, facial expressions, speech, or physical contact understood to be sexual in nature or which is repeated after the individual signifies that the conduct is perceived to be offensively sexual.

Consenting Relationships

Consenting romantic and/or sexual relationships between a faculty member and a student or under the faculty member's academic supervision, or between a supervisor and an employee under the supervisor's supervision are inappropriate and unprofessional behavior and should not occur. Taking note of the respect and trust accorded a professor by a student and of the power exercised by the professor, a relationship between a faculty member and a student should be considered one of professional and client, in which sexual relationships are inappropriate. A similar relationship exists between a supervisor and an employee. The power differential inherent in such relationships may compromise the subordinate's free choice. Others may view such a relationship as one of preferential treatment and detrimental to themselves or others. A faculty member or supervisor who enters into a sexual relationship with a student or an employee, where a professional power differential obviously exists, must realize that if a charge of sexual harassment is subsequently lodged, the burden will be on the faculty member or supervisor to prove immunity on grounds of mutual consent.

Relationships between a graduate student and an undergraduate, when the graduate student has some supervisory responsibility for the undergraduate, belong in this category. Among other relationships included are those between a student or employee and administrator, coach, adviser, program director, counselor, or residential staff member who has supervisory responsibility for that student or employee.

Protection of the Complainant and Others

No student, faculty member, or staff member may be subjected to any form of reprisal for seeking information on sexual harassment, filing a sexual harassment complaint, or serving as a witness in a proceeding involving a complaint of sexual harassment. Any retaliatory action will be a violation of this policy and will be grounds for disciplinary action. Individuals who believe they have been subjected to reprisal for their participation in a sexual harassment complaint may use the procedures of this policy to seek redress.

Protection of the Accused

Accusations of sexual harassment are grievous and can have serious and far-reaching effects on the careers and lives of accused individuals. Allegations of sexual harassment must be made in good faith and not out of malice. Individuals who believe they have been falsely accused of sexual harassment may use the procedures of this policy to seek redress.

Responsibility of Supervisors

Supervisory personnel are charged with maintaining an atmosphere that discourages sexual harassment and ensuring that the University policy is enforced in their areas. Supervisors are directed to discourage all behavior that might be considered sexual harassment and to respond promptly to sexual harassment complaints. University officials who knowingly condone incidents of sexual harassment or instances of reprisal for reporting such complaints will be subject to disciplinary action.

Role of Affirmative Action

The chancellor has assigned responsibility for the administration of this policy to the Executive Assistant to the Chancellor for Affirmative Action/Equal Opportunity who will oversee the dissemination of the policy to the University community, devise education and training programs, maintain centralized records of sexual harassment complaints, oversee the grievance process, coordinate the

resolution of complaints, and evaluate the effectiveness of the complaint resolution procedures and related educational programs.

External Agency Complaint Procedures:

A summary description of the legal recourse, investigative and complaint process available through the Illinois Department of Human Rights and the federal Equal Employment Opportunity Commission may be found in Appendix B of the University Policy Concerning Sexual Harassment. A copy of the policy, as well as additional information about the procedures of these agencies is available from the Affirmative Action Office. Also, Appendix B may be obtained from the Affirmative Action Office.

Campus Resources

The names of the sexual harassment information advisers are available from: *University Directory* listed in the Office Directory section under Sexual Harassment Information Advisers

University Affirmative Action Office, Davies 153, 618-536-1196

University Ombudsman, Woody Hall C302, 618-453-2411

For assistance in informal complaint resolution on campus, contact:

University Ombudsman, Woody Hall C302, 618-453-2411

To file a complaint on campus, contact:

The supervisor of the individual you are complaining about or the Affirmative Action Office: 110 Anthony Hall, 453-1186 or 153 Davies, 453-1196.

Off Campus Resources

Department of Human Rights
222 S. College Street
Springfield, Illinois 62704
(217) 785-5100
T.D.D. (217) 785-5125

Human Rights Commission
William G. Stratton Office Bldg., 4th
Floor
Springfield, Illinois 62704
(217) 785-4350

State of Illinois Center
100 W. Randolph St., 5th Floor
Chicago, Illinois 60601
(312) 814-6200
T.D.D. (312) 263-1579

State of Illinois Center
100 W Randolph St., 10th Floor
Chicago, Illinois 60601
(312) 814-6269

EEOC
Central West Plaza Building
625 Euclid Street, 4th Floor
St. Louis, Missouri 63108
(314) 425-6545

EEOC
536 S. Clark Street
Chicago, Illinois 60605
(312) 353-2713

Academic Resources

Library Affairs

The extensive holdings and wide array of bibliographic and instructional support services offered by SIUC's Morris Library place it among the foremost research institutions. The library is a longtime member of the Association of Research Libraries and also holds membership with the Center for Research Libraries in Chicago. It is an active participant in the world's largest bibliographic network, OCLC (Online Computer Library Center), and is a member of ILLINET Online (IO), the statewide automated catalog, circulation, and interlibrary loan system with records of over 700 libraries.

The library's general collection numbers 2.2 million volumes, 3.2 million microforms, and over 12,500 current serial subscriptions. Library users have access to nearly 900 electronic data files and CD-ROM products via multiple workstations located throughout the building and through the Internet (World Wide Web). Up to date information about library services is available via the LINKS (Library Information NetworKS) component of the campus-wide computer network or through the Library's home page: www.lib.siu.edu.

The library's many noteworthy holdings include: depository collections of federal, state, and United Nations documents; and an Instructional Materials Center which includes current and historical children's literature, textbooks, and teaching aids. Also, additional areas of Library Affairs include the Ulysses S. Grant Association's editorial project to publish the complete correspondence of President Grant, and a Special Collections area holding many internationally known research collections.

Among the library's major administrative units, Public and Collection Development Services comprises four subject divisions (Education and Psychology, Humanities, Science, and Social Studies), and the Undergraduate Library which provides materials designed to meet the special needs of undergraduates, including a self-instruction center and a reserve collection. Public and Collection Development Services assists library users by providing access to, and identifying, borrowing, and delivering materials from other libraries. Through its Instructional Support Services unit, the library offers faculty members a host of instructional development, research, and evaluation services including a Regional Center for Distance Learning and Multimedia Development, as well as video, photographic, and graphic production services. The Distance Learning initiatives for the southern Illinois area have their headquarters in Morris Library.

Special Collections and Development Services consists of historical and literary manuscripts, the rare book collection, and the University Archives. Special Collections contains important research materials in twentieth century philosophy, including the papers of John Dewey and the archives of the Open Court press; the Irish literary renaissance, American and British expatriate literature; First Amendment freedoms, proletariat theater, and southern Illinois history. Among other library services, Technical and Automation Service updates information in the online catalog and is responsible for LINKS and all of the library's other electronic services.

Information Technology

Faculty and staff are encouraged to have desktop computers for their needs. To assist faculty and staff in the achievement of instruction, research, service, and administrative goals and objectives of the University, SIU's network infrastructure provides network-based information resources to desktops by Unix-based RISC servers, an IBM mainframe (ES/9021-500 with vector processor), and four Computer Learning Centers with computer classrooms and general access areas equipped with a variety of microcomputers.

The network at SIUC currently includes over 40 buildings. The expansion of the fiber optic network to buildings on the SIUC campus is designed to provide for data transmission, compressed digital video, and full motion video, empowering faculty to enhance teaching with computer teaching with computer and video projection. The technology infrastructure, based primarily on support of the campus backbone network and its peripheral technologies, enables the creative delivery of instruction, research, and community service. The network connects work groups and departmental microcomputers or workstations for electronic interchange.

SIUnet, SIUC's communications network, with over 5,000 interactive devices, provides access to on- and off-campus computing resources as well as netIlli-

nois/CICNET access to the Internet and to ADVANTIS (a commercial, value-added network).

The SIUC Internet system is a comprehensive environment comprised of multiple servers and services dedicated to the enrichment of faculty, staff, students, alumni, and the general public. Among the more common systems is a World Wide Web (WWW) campus Internet System, which provides important information to prospective students, parents of prospective students, alumni, and the general Internet audience. In conjunction with the SIUC Internet System is a campus WWW "Intranet" System that provides specific information about services and resources available at SIUC, including key departmental information, on-line searches, and links for research faculty and students to library resources, local, regional, and international information sources. A student-oriented WWW service called "SalukiNet" provides access to students' personal records, such as grades, transcripts, financial aid, account information, and student payroll. Specialized network-based servers, such as electronic mail, access to Unix computational resources, and various statistical libraries are also available, as well as centralized data storage systems. These resources are available from local area networks and through dial-up facilities.

A Campus Wide Information System network-based Unix server provides specific information about services and resources available at SIUC. CWIS links research faculty and students to library resources, local, regional, and international information sources, specialized network-based servers, such as electronic mail, access to Unix computational resources, and various statistical libraries. Data storage systems are also provided. These resources are available from local area networks and through dial-up facilities.

The Information Technology Customer Service Center provides assistance for computing problems via their call desk (618-453-5155). Support is available to all SIUC students, staff, and faculty having problems with the computing hardware and software supported by Information Technology. For example, the center can help you open a computing account, get the software required to use e-mail and browse the World Wide Web, and get connected to the SIUC network and the Internet. For those problems that cannot be resolved over the telephone, service calls to staff and departmental offices on campus can be arranged.

The academic and research needs of faculty and students are supported with a full range of compilers, statistical packages, graphics software, word processing, electronic mail, and network facilities. Computer services are available on-line to the University academic, research, and administrative communities 24 hours per day, 7 days a week.

Research and Service Centers

CENTER FOR ADVANCED FRICTION STUDIES

As a University-based center sponsored by the National Science Foundation, the State of Illinois and an industrial consortium, the Center for Advanced Friction Studies involves the education of undergraduate and graduate students in the science of friction materials and training through the research experience. Academic programs are structured to emphasize instruction in subject areas specific to friction materials. Many of the employees of the center and all of the associates are tenure-track members of academic departments. Central to the center's mission is completion of research programs at a level satisfying the dissertation and thesis requirements of SIUC, and the presentation and publication of the results at learned meetings and in the technical journals.

The center personnel are required to develop courses in their specialization suitable for undergraduate and graduate students and to offer these courses to industry and government as short courses and seminars. Technology transfer from the center to industry and industry to the center are facilitated by personnel exchange and by utilizing remote interactive learning networks. Industrial

representatives are brought to campus to lead research on both core (non-proprietary) and non-core proprietary projects and serve as adjunct instructors, and thesis advisors for the on-campus students.

Unique to the center is the focus of the research on areas of fundamental interest to the friction industry in the United States. In order to ensure that the results have the potential for providing insights into critical problems, an industrial board recommends the initial programs of research, reviews the results, and suggests the development work to be carried out in the technology transfer implementation programs. The governing industrial board is composed of one industry representative from each U.S. supporting company, as defined by the U.S. Department of Commerce.

CENTER FOR ALZHEIMER'S DISEASE AND RELATED DISORDERS

The School of Medicine's center in Springfield has research projects that cover a wide range of basic and clinical studies relating to normal aging, Alzheimer's disease, Parkinson's disease, vascular dementia and gait disturbances in the elderly.

THE CENTER FOR ARCHAEOLOGICAL INVESTIGATIONS

Closely associated with the Department of Anthropology, the Center for Archaeological Investigations has research activities in the American Midwest, Caribbean, Guatemala, Mexico, Peru, and the western Pacific. Funding is provided by state and federal agencies, and private institutions. The center also conducts archaeological research for firms and government agencies which are required to comply with environmental and antiquities laws. The center conducts an annual field school, and provides thesis and dissertation data, and research opportunities for numerous students of archaeology. The center also curates a large collection, representing over 30 years of research.

The web address for the Center for Archaeological Investigations is <http://www.siu.edu/~cai>.

CENTER FOR DEWEY STUDIES

The Center for Dewey Studies was established in 1961 as the "Dewey Project." In the course of collecting and editing the works of John Dewey (1859–1952), the center has amassed a wealth of source materials for the study of America's quintessential philosopher-educator. By virtue of its publications and research, the center has become the international focal point for research on Dewey's life and work.

In 1990, the staff of the center completed work on the monumental thirty-seven-volume edition of Dewey's complete writings, *The Collected Works of John Dewey, 1882–1953*, published by the Southern Illinois University Press. Support for this project was provided by the National Endowment for the Humanities, an independent Federal agency, as well as the John Dewey Foundation and private donors. In 1996 the center in cooperation with the InteLex Corporation, published a CD-ROM edition of *The Collected Works*.

The center's current project, funded by the National Endowment for the Humanities, the John Dewey Foundation, and private donors, involves locating, editing, and publishing some 13,000 items of John Dewey's correspondence. Additional information about activities at the center can be found at its web site, <http://www.siu.edu/~deweyctr>.

CENTER FOR ENVIRONMENTAL HEALTH AND SAFETY

This center is responsible for facilitating and monitoring assurances of university wide compliance to policies and guidelines of the University, state agencies, Environmental Protection Agency, Nuclear Safety Agency, Occupational Health

and Safety, and National Institute of Health, with respect to human health and safety.

CENTER FOR RURAL HEALTH AND SOCIAL SERVICE DEVELOPMENT

The Center for Rural Health and Social Service Development enables faculty, staff, and students to work as partners with area agencies to address the most pressing health and social service problems of Southern Illinois. The center, based in SIUC's Office of Economic and Regional Development, conducts research, needs assessments, demonstration projects, and program evaluations; designs and implements training programs; tests new models of health care delivery; and develops policy recommendations to improve the health of our rural population. It has received grants from many public and private agencies concerned with health care, including the Robert Wood Johnson Foundation and the Centers for Disease Control and Prevention. Current research priorities include rural primary care, safety and health promotion, and the needs of special populations (e.g., migrant seasonal farm workers).

COAL RESEARCH CENTER

The Coal Research Center assists in the development and implementation of research education and service activities related to the extraction and utilization of coal. Established in 1974, the center has worked to advance the application of new technologies in mining and power production and to identify new uses and markets for Illinois coal. Research relating to surface mine reclamation, mine subsidence, coal desulfurization, coal characterization, combustion, gas cleanup and environmental policy have been conducted at SIUC. Faculty and students from such diverse fields as engineering and technology, science, business, education, law, and agriculture have contributed to the University's international reputation in energy and environmental research.

The center administers the Illinois Mining and Mineral Resources Research Institute and the National Mine Land Reclamation Center—Midwestern Region, and since 1990 it has managed the Illinois Coal Development Park at SIUC's Carterville Campus in cooperation with the Illinois Department of Commerce and Community Affairs. Efforts at the Coal Development Park have targeted technologies that promise near term commercial acceptance by coal producers and users. Technologies developed here include coal cleaning, refining, combustion, air emission reduction and solid combustion residues utilization.

The center also operates a unique program that offers industry improved dragline safety and productivity. The Dragline Productivity Program offers computer-based instruction and hands-on simulator experience for operators and supervisors from mining operations around the world. The web address for the Coal Research Center is <http://www.siu.edu/~coalctr>.

COOPERATIVE WILDLIFE RESEARCH LABORATORY

Since its founding in 1951, the laboratory has achieved a distinguished record training graduate students in basic and applied principles of vertebrate ecology and wildlife biology. It is the only such comprehensive program in Illinois, and it is recognized as among the premier programs in the nation. Independent, cooperative, and collaborative research supported by industry, foundations, and state and federal agencies lead to better understanding and management of natural resources. The laboratory has pioneered in the reclamation and enhancement of mined lands for the benefit of various resources; and, the current efforts provide unique research and training opportunities. Other areas of acknowledged laboratory expertise include the biology and ecology of game, endangered, and non-game wildlife; land use and the impact on wildlife resources; wildlife and environmental toxicology; waterfowl/wetland ecology and the epidemiology of zoonotic and other diseases in wildlife. More than 20 projects di-

rected by laboratory staff currently afford graduate fellows and research assistants broad and varied research opportunities. These activities exceed \$500,000 each year in contracts and grants, resulting in significant contribution to academic needs of students and staff and requests for service by state, federal, and private agencies.

The web address for the Cooperative Wildlife Research Laboratory is <http://www.siu.edu/~wildlife/>.

COOPERATIVE FISHERIES RESEARCH LABORATORY

Graduate research in fisheries is conducted through the Fisheries Research Laboratory. Graduate study in fisheries, culminating in the Master of Science or Doctor of Philosophy degree, is offered in the Department of Zoology. In addition to a wide variety of support courses, ten fisheries courses are taught. Research activities include studies in both fish management and aquaculture. Emphases include warmwater, coolwater, and coldwater fishes native to Illinois. There are also opportunities to work with exotic species of fishes and shellfishes, both freshwater and marine, particularly through the international fisheries program. Some of the areas of research stressed are trophic ecology, water quality, pond culture, tank culture, polyculture, culture system development, nutrition, fish physiology, fish genetics, utilization of nursery areas, introduction of forage fishes as a management tool, introduction of non-native sport fishes, ecology of larval fishes, age and growth studies, introduction of hybrid fish species, utilization of power plant cooling lakes, and population dynamics. Facilities in the Fisheries Research Laboratory include offices, well equipped laboratories, aquarium rooms, culture ponds, a greenhouse for hydroponic and recirculating water system studies and an 8,300 square-foot wet-laboratory building and a 90-pond research/demonstration facility.

The web address for the Cooperative Fisheries Research Laboratory is <http://131.230.57.1/fishweb/coopfish.htm>.

THE MATERIALS TECHNOLOGY CENTER

The Materials Technology Center was established in 1983 as a result of a high-technology thrust by the state of Illinois. Charged with stimulating materials-related research on the campus of SIUC, the center accomplishes this mission through initiating interdisciplinary research in the colleges of engineering and science, conveying results to industrial partners and sponsoring international technical conferences and seminars. The center encourages research in new areas by administering a competitive grant program that funds start-up projects for faculty entering new areas of materials research and provides technical, administrative and financial support to start-up and established research programs.

A historical strength of the center has been research in the area of carbon-carbon composites. Regarded as a national leader in characterization and fabrication, the center has expanded its leadership and expertise in carbon science to include studies in areas such as fullerenes and development of carbon material precursors.

Research programs in electrorheological fluids, catalysis, magnetic materials, superconductivity, materials to reinforce civil engineering structures, polymeric matrix composites, chemical vapor infiltration and plasma induced deposition techniques represent the diverse nature of materials research supported by the center.

Under the guidance of established experts, students associated with MTC receive hands-on training and valuable experience. The total program of the center offers an opportunity for students at all levels of experience to train in the fields of materials science and engineering.

The web address for the Materials Technology Center is <http://www.siu.edu/~mtc/>.

PONTIKES CENTER FOR MANAGEMENT OF INFORMATION

This center in the College of Business and Administration was established to advance practical and theoretical knowledge in the management of information. The Pontikes Center's primary goals are to rethink and redesign the management of information and to educate students, computer industry professionals, and business managers on effective management of information. The center supports research and curriculum development by faculty and students and acts as a clearinghouse for student internships in this field.

THE PUBLIC POLICY INSTITUTE

The Public Policy Institute, established in 1997, is headed by former U.S. Senator Paul Simon. It acts on significant and controversial issues impacting the region, the state, the nation and the world. The institute played the pivotal role in fashioning recommendations from a bipartisan group of former United States Senators on how to assure the fiscal viability of the Social Security System — recommendations that may well be embodied in legislation under consideration by two prominent members of the Senate.

Other major issues on the institute's agenda include television violence and children's programming; environmental protection; campaign finance reform, and welfare reform. The institute is committed to developing approaches that could bring concrete, positive results in tackling some of the most difficult challenges in the public policy arena.

Research Shops and Services

The services of the Office of Research Development and Administration's (ORDA) centralized research support facilities are available to faculty, staff, and students at minimal cost. The *Center for Electron Microscopy* provides training, technical service, and research in electron and light microscopy. The *Nuclear Magnetic Resonance Facility*, a centralized NMR lab for teaching and research, houses Varian VXR-500 and VXR-300 systems. The *Research Photography and Illustration Facility* offers consultation and technical assistance to those in need of scientific photography or computer-graphics illustration as an integral part of their research endeavors. The central animal facility, or *Vivarium*, is directed by a veterinarian with specialty training in laboratory animal medicine to ensure proper and humane care of research animals. The *Central Research Shop* designs, constructs, and repairs special equipment demanding medium and large machining capabilities. The *Fine Instruments Research Shop* designs, fabricates, and repairs sophisticated mechanical, opto-mechanical, and electro-mechanical instruments. The *Research Glassblowing Facility* designs and fabricates unique scientific glassware and repairs glassware.

Office of Research Development and Administration

The Office of Research Development and Administration (ORDA) offers a number of services for faculty, staff, and students who wish to submit grant applications to funding agencies. Graduate students seeking funding for their research projects (dissertation support, research fellowships, travel grants, etc.) should visit the ORDA Resources Library (Woody Hall C-214), which contains a wide range of information on governmental agencies, private foundations, and other sources of grant funding. ORDA offers a workshop for graduate students and publishes a brochure about seeking grant funding for graduate study. This publication, along with a host of other research- and grant-related information, also appears on ORDA's web site (www.siu.edu/worda).

The ORDA staff is available for consultation and assistance in preparing grant proposals and budgets. ORDA also works with researchers in negotiating grant/contract award agreements, processing awards, and handling invention disclosures.

One of ORDA's responsibilities is to ensure that research conducted at SIUC complies with all applicable federal and funding-agency regulations. Funded or unfunded research that will involve any of the following—human subjects (including administering questionnaires, conducting interviews, or accessing confidential databases), research animals, radiological materials, hazardous biological materials, recombinant DNA, or hazardous waste—must have clearance **before** the research project begins. Students should consult ORDA (618-453-4540) or their graduate advisor for guidance. (See related information in section on Student Responsibility elsewhere in this chapter).

Accreditations

The Graduate School, as a part of SIUC, is fully accredited by the North Central Association of Colleges and Secondary Schools, 159 N. Dearborn, Chicago, IL 60601, 312-263-0456. Other accreditations and affiliations include:

Accreditation Board for Engineering and Technology, Inc. 345 E. 47th Street New York, NY 10017-2397 (212) 705-7685	(202) 336-5500
Accreditation Council of the American Assembly of Collegiate Schools of Business (undergraduate and master's level programs) 605 Old Ballas Rd., Suite 200 St. Louis, MO 63141-7077	American Speech-Language-Hearing Association, Educational Standards Board 10801 Rockville Peak Rockville, MD 10852 (301) 897-5700
American Association of Museums 1225 I Street, NW, Suite 200 Washington, DC 20005 (202) 289-1818	Association of American Law Schools 1201 Connecticut Ave., N.W., Suite 800 Washington, DC 20036-2605 (202) 296-8851
American Bar Association 735 W. New York St. Indianapolis, IN 46202 (317) 274-8071	Association for Assessment and Accreditation of Laboratory Animal Care International 11300 Rockville Pike, Suite 1211 Rockville, MD 10852-3035 (301) 231-5353
American Chemical Society 1155 16th St., NW Washington, DC 20036 (202) 872-4599	Commission on Accreditation of Allied Health Education Programs 35 East Wacker Drive, Suite 1970 Chicago, IL 60601-2208 (312) 553-9355
American Council on Education in Journalism and Mass Communication Stauffer-Flint Hall University of Kansas Lawrence, KS 66045 (913) 864-3973	Commission on Accreditation of Rehabilitation Facilities 2500 North Pantano Rd. Tucson, AZ 85715 (602) 886-8575
American Psychological Association (Counseling and Clinical Psychology) 750 First St., N.E. Washington, D.C. 20002-4242	Council for Accreditation for Counseling and Related Educational Programs (CACREP) 5999 Stevenson Ae. Alexandria, VA 22304 (703) 823-9800

Council on International Educational
Exchange
205 East 42nd Street
New York, NY 10017
(212) 822-2600

Council on Rehabilitation Education
(Rehabilitation Counseling
Program)

Dr. Garth Eldridge
Department of Special Education
Utah State University
Logan, UT 84322-2870
(801) 750-3241

Council on Social Work Education
1600 Duke St., Suite 300
Alexandria, VA 22314-3421
(703) 683-8080

Illinois Alcohol and Other Abuse
Professional Certification
Association, Inc.
1305 Wabash, Suite L
Springfield, IL 62704
(800) 272-2632
(217) 698-8110

Illinois State Board of Education
100 North First Street
Springfield, IL 62777-0001
(217) 782-2805

International Association of
Counseling Services
101 S. Whiting Street, Suite 211
Alexandria, VA 22304
(703) 823-9840

Liaison Committee on Medical
Education of the American
Medical Association and
Association of American Medical
Colleges
2450 N. St., N.W.
Washington, DC 20037-1134
(202) 828-0400

National Academy of Early Childhood
Programs
1509 16th St., N.W.

Washington, DC 20036-1426
(800) 424-2460
(202) 232-8777

National Athletic Trainers Association
2952 Stennons Freeway
Dallas, TX 75247
(800) 879-6282

National Association of Schools of Art
and Design
11250 Roger Bacon Dr., Suite 21
Reston, VA 22090
(703) 437-0700

National Association of Schools of
Music
11250 Roger Bacon Dr., No. 21
Reston, VA 22090
(703) 437-0700

National Association of Schools of
Public Affairs and Administration
1120 G. Street, N. W., Suite 730
Washington, DC 20005
(202) 628-8965

National Association of Schools of
Theatre
11250 Roger Bacon Dr., Suite 21
Reston, VA 22090
(703) 437-0700

National Council for Accreditation of
Teacher Education
2010 Massachusetts Ave., N.W., Suite
500
Washington, D.C. 20036-1023
(202) 466-7496

National Recreation and Parks
Association (National
Accreditation Council)
3101 Park Center Drive
Alexandria, VA 22302
(703) 820-4940

Society of American Foresters
5400 Grosvenor Lane
Bethesda, MD 20814-2198
(301) 897-8720

Associations

CENTER FOR ADVANCED RADIATION SOURCES

The University is a member of the Center for Advanced Radiation Sources (CARS), a research consortium composed of Northern Illinois University, the University of Chicago, and Southern Illinois University at Carbondale. Membership with CARS provides access to the facilities being developed at the Advanced Photon Source sited in Illinois and facilities at other federal laboratories.

COUNCIL OF GRADUATE SCHOOLS OF THE UNITED STATES AND CANADA

The University is a regular member of the Council of Graduate Schools (CGS) of the United States and Canada. CGS was established to provide graduate schools with both a comprehensive and widely representative organization through which they can counsel and act together.

COUNCIL ON RESEARCH POLICY AND GRADUATE EDUCATION (CRPGE) IN THE NATIONAL ASSOCIATION OF STATE UNIVERSITIES AND LAND GRANT COLLEGES (NASULGC)

The Graduate School is an active member of this major research and graduate educational council of the largest association of public research universities in the United States.

NATIONAL COUNCIL OF UNIVERSITY RESEARCH ADMINISTRATORS

The National Council of University Research Administrators (NCURA) is an association of individuals involved in the administration of sponsored programs (research, education, and training) primarily at colleges and universities.

OAK RIDGE ASSOCIATED UNIVERSITIES

Since 1980, students and faculty of Southern Illinois University at Carbondale have benefited from its membership in Oak Ridge Associated Universities (ORAU). ORAU is a consortium of colleges and universities and a management and operating contractor for the U.S. Department of Energy (DOE) located in Oak Ridge, Tennessee. ORAU works with its member institutions to help their students and faculty gain access to federal research facilities throughout the country; to keep its members informed about opportunities for fellowship, scholarship, and research appointments; and to organize research alliances among its members.

Through the Oak Ridge Institute for Science and Education, the DOE facility that ORAU manages, undergraduates, graduates, postgraduates, as well as faculty enjoy access to a multitude of opportunities for study and research. Students can participate in programs covering a wide variety of disciplines including business, earth sciences, epidemiology, engineering, physics, geological sciences, pharmacology, ocean sciences, biomedical sciences, nuclear chemistry, and mathematics. Appointment and program length range from one month to four years. Many of these programs are especially designed to increase the numbers of underrepresented minority students pursuing degrees in science- and engineering-related disciplines. A comprehensive listing of these programs and other opportunities, their disciplines, and details on locations and benefits can be found in the *Resource Guide*, which is available on the World-Wide Web at <http://www.ornl.gov/orise/resgd.htm>, or by calling either of the contacts below.

ORAU's Office of Higher Education Initiatives seeks opportunities for partnerships and alliances among ORAU's members, private industry, and major federal facilities. Activities include faculty development programs, such as the Junior Faculty Enhancement Awards and the Visiting Industrial Scientist Program, and various services to chief research officers.

For more information about ORAU and its programs, contact Richard E. Falvo, ORAU Council Member, at 618-453-4526; Monnie E. Champion, ORAU Corporate Secretary, at 423-576-3306; or the ORAU Home Page at <http://www.ornl.gov>.

ORGANIZATION FOR TROPICAL STUDIES

Southern Illinois University at Carbondale is an institutional member of the Organization for Tropical Studies (OTS), a non-profit corporation organized for the purpose of establishing, fostering, supporting and conducting programs in edu-

cation and research relating to the tropics; to establish, maintain, and operate facilities for these purposes; to publish the results of education and research; and to carry out other activities relating to the advancement of education and research in the tropics. Since its founding in 1963, OTS has become a significant force on the international scene, and it functions as a catalytic agent within Costa Rica and the U.S. scientific community. OTS continues to expand programming into environmental education and other areas where sound ecological knowledge can be used to address societal problems. OTS is the oldest consortium of U.S. universities dealing with tropical biology. It includes over 50 major institutions.

SOCIETY FOR RESEARCH ADMINISTRATORS

The University is a member of the Society for Research Administrators (SRA). Its membership includes administrators in industry, colleges and universities, non-profit research organizations, hospitals, and government agencies. SRA is the premier international organization for research administrators.

Facilities and Services

Placement Services of University Career Services (UCS)

University Career Services provides services to students and alumni seeking job search assistance. Career Services Specialists are available to answer career related questions and to discuss placement procedures, job opportunities, resume writing, and interviewing techniques. UCS also works closely with employers in order to provide direct assistance in filling their job requirements. Inquiries concerning these services should be made to the University Career Services office in Woody Hall B208, or by calling 618-453-2391.

Housing

Residence Halls. Single and double occupancy housing is available in the residence halls for single graduate students. Contracts for room and board are offered on a first come, first served basis. A variety of meal options are available.

Inquiries regarding on-campus residence halls should be sent to the Supervisor of Contracts, University Housing, Southern Illinois University at Carbondale, Carbondale, IL 62901-6716.

Family Housing. SIUC operates apartment complexes for graduate students, married couples, and students with families. Southern Hills, on the southeast edge of campus, has efficiency, one-bedroom, and two-bedroom furnished apartments. Evergreen Terrace, on the southwest edge of campus, has two- and three-bedroom unfurnished apartments. Priority for two- and three-bedroom apartments are given to families with children.

Sixteen furnished efficiency apartments are available for single graduate students at Elizabeth Apartments, 800 South Elizabeth Street, on the west edge of campus.

Contracts are offered to eligible applicants based on the date of application. Inquiries regarding apartments should be sent to Supervisor of Contracts, University Housing, Southern Illinois University at Carbondale, Carbondale, IL 62901-6716.

Off-Campus Housing. Many types of rental units are available in Carbondale, including apartments, rooming houses, and mobile homes. Many of the off-campus complexes are within walking distance of the campus. A personal visit prior to contracting with a facility is recommended.

A listing of apartment complexes and mobile home parks in the Carbondale area is available by contacting Off-Campus Housing, Southern Illinois University at Carbondale, Carbondale, IL 62901-6716.

Parking on Campus

Students wishing to operate or park a motor vehicle on campus must apply for a parking decal at the Parking Division, Washington Square, Building B.

Office of Director, International Programs and Services

The office of director for International Programs and Services (IPS) is responsible for developing and supporting faculty, staff, and students in international education. The office administers International Development; Southern Illinois University at Carbondale in Niigata, Japan Overseas Coordination Office; Study Abroad, and International Students and Scholars.

Primary goals include increasing the numbers of externally funded grants and contracts in the international arena for SIUC; increasing international enrollment, serving international students, providing international opportunities for faculty and students, and extending the SIUC-N overseas campus program concept to other areas of the world. Units of IPS are located in the Northwest Annex B.

International Development

The International Development division provides University-wide leadership, coordination, and support for a wide variety of developmental activities. These activities include research and dissemination of information on external funding opportunities, maintenance of an international projects database and a resource library, development of grants and projects, coordination of international linkages and agreements, promotion of women in development activities, sponsorship of international development forums, and assistance with international visitors and protocol. Assistance also is provided in the exploration of project ideas, identification of funding sources, development of proposals, negotiation of contracts, and administration of externally funded activities.

The International Development division is located on the third floor of the Northwest Annex B. (618-453-7670).

International Students and Scholars

The International Students and Scholars division provides comprehensive programs and services for international students and scholars from pre-arrival correspondence to post-graduate concerns. These programs and services include processing of financial clearance for admission, serving as liaison with foreign governments and sponsoring agencies, providing certification for foreign currency exchange, and other needs. This office has been designated by the U.S. Immigration and Naturalization Service (INS) as having the official responsibility for interpretation and adherence to INS laws and regulations as they apply to non-immigrant students and faculty. Also designated responsible officers administer proper compliance with the USIA Exchange Visitor Program for the University. Assistance with INS regulations, forms, and procedures is provided to all non-immigrants related to University and broader community affairs.

Integral educative services include orientation programs, arrival and housing assistance, personal counseling and referral, a *Handbook for International Students and Faculty*, a newsletter (The International Dateline), advisement of international student associations, and a re-entry workshop for internationals going home.

Special programs which promote an international dimension of cross-cultural exchange to the broader community are provided. An annual International Festival and various national day celebrations are held. The Community Programs

subdivision in cooperation with the International Friends Club coordinates a Host Family Program, International Speakers' Bureau, English in Action, Language Exchange, American and International Cooking Exchange, an International Spouses Group, and a Loan Closet.

The International Students and Scholars division is located on the first floor of Northwest Annex B (618-453-5774).

Study Abroad Programs

Study Abroad Programs coordinates overseas services for American students, including international grant programs, exchanges, and study abroad programs. It is the central referral point for information on the student Fulbright program and on the British Marshall, International Research and Exchanges Board (IREX), National Security Education Program, and Rhodes scholarships. Graduate students may also participate in inter-university international exchange programs and in travel/study programs offered during the summer and intercession periods under the auspices of this division.

Study Abroad Programs is located on the second floor of the Northwest Annex B (618-453-7670).

Economic and Regional Development

The University established the Office of Economic and Regional Development (OERD) in 1986 as a means to improve the quality of life and economic climate in southern Illinois. Located in the award-winning Small Business Incubator south of campus at the intersection of Route 51 and Pleasant Hill Road, OERD administers the Incubator Program, the Center for Rural Health and Social Service Development, Small Business Development Center and Manufacturing Extension Center, Informational Services, and International Economic Development. OERD provides special programs in business training and scheduling, plus rentable space for business start-up and expansions needing in-depth assistance, reception, copy, FAX service and conference space.

Primary goals include creating, attracting, and expanding business and industry in Illinois; further developing the human resource potential within the public and private sectors of the region and state; and addressing the health care and social service issues impacting the lives and productivity of the citizens in this state and nation.

Student Health Programs

The University is committed to assisting students to maximize their academic achievement and reduce health and psychological barriers by offering an extensive primary health care plan and insurance benefits package through the Student Health Programs. These plans offer many programs and services that include physical, mental, and dental health, wellness, and extended care insurance. The mission of the Student Health Programs is to assist students by providing services that are comprehensive, accessible, and result in a healthy campus culture.

ELIGIBILITY & FEES

Any student who is enrolled at Southern Illinois University at Carbondale and has paid the student medical benefit fees (primary care and extended care) is eligible for services. The student medical benefit fees are assessed each semester and summer session. Dependents of students are not eligible for Student Health Programs benefits.

AREAS OF SERVICES

The Student Health Programs (SHP) offers the following interrelated programs and services.

On-Campus Outpatient Care. This primary care is the same as that offered by private general physicians. The Health Service Clinic is staffed by physicians, a full-time psychiatrist, physician assistants, registered nurses, and support staff. The Student Medical Benefit (SMB) Fees paid by SIUC students include all routine office care and a wide range of diagnostic tests, including laboratory and x-ray procedures. The Women's Health Clinic is offered as an option for female students who wish to have gynecological care and education provided by female health care providers. Appointments may be scheduled at the Health Service Clinic from 7:30 A.M. to 4:30 P.M. Monday through Friday. The Health Service is on an APPOINTMENT ONLY system. Call 453-3311 for an appointment. The Health Service Clinic has a phone number for the hearing impaired. The TDD number is 453-3384 and may be used to make appointments at the Health Service Clinic. There is a \$5.00 charge for each Clinic Service visit.

Immunizations. Illinois law, Public Act 85-1315, requires all persons entering a four year public or private institution of higher education to provide proof of immunization before registering for a second semester. For an appointment and information, call 453-4454. Proof of immunity is required for Tetanus, Diphtheria, Measles, Mumps, and Rubella. A \$25.00 late compliance fee will be assessed to students who fail to provide proof of immunity or have begun to receive the necessary series of immunizations by the end of the seventh week of the semester. This fee is NOT refundable.

Dial-A-Nurse. The Dial-A-Nurse program provides an after-hours advisory service during Fall and Spring semesters. The number to call is 536-5585, 4:30–10:30 P.M. Monday–Friday and 2:30–10:30 P.M. Saturday and Sunday.

Pharmacy. Prescriptions and over-the-counter drugs are available at the Pharmacy. Prescriptions from physicians outside the Health Service may be filled and students may pay for the pharmacy items by cash, check, or by charging to their Bursar's Account.

Student Emergency Dental Service. This program provides dental care to resolve emergency dental disorders, to answer dental concerns, and perform some routine fee-for-service procedures billed through the student's Bursar Account.

Counseling Center. The Counseling Center is staffed by professional psychologists and is ready to help students deal with scholastic, family, emotional, medical, legal, or financial problems. The Counseling Center's staff is committed to meeting the special needs of individuals from diverse backgrounds including differences of race, culture, gender, ability, and sexual orientation.

Women's Services. Women's Services is a component of the Counseling Center which is devoted to the support, education, and personal growth of women. Women's Services provides workshops, consultation, resource materials, short term individual counseling, campus safety programming, re-entry services for University women, and other programs offering services to women.

Wellness Center. The Wellness Center offers programs and services to help students achieve optimal health and skillfully administer self-care when ill. Individual and small group counseling, workshops, and seminars in the Student Center, residence halls, and the Student Recreation Center, classroom presentations and special programs are offered throughout the year.

Extended Medical Care Benefit Plan (Student Insurance). The Student Medical Benefit Extended Care fee is assessed each semester and summer session and funds the insurance benefits of emergency room, ambulance, specialty care, hospitalization, outpatient surgery, mental health care, and accidental death and dismemberment.

Extended Medical Care Benefit Fee Refund. Students who carry their own medical insurance or are covered under their parents' policy may be eligible for a refund of the Extended Care (Insurance) fee. Students who think they may qualify for a refund must apply no later than the end of the second week of fall and spring semesters or by the end of the first week of the summer session. When applying, students must provide a copy of their insurance policy and insurance identification card to the Student Medical Benefits Office.

Subrogation Clause. If any student has rights to recover damages from another person, those rights are transferred to Southern Illinois University to the extent of our payment or the value of the services rendered. The student must do everything requested to secure SIUC's rights and must do nothing after loss to impair them; otherwise, the student may be held personally accountable to the extent of payments made or the value of services rendered.

Confidentially of Information. All visits to any division of the Student Health Programs are confidential. Medical information may be released when authorized by the student. Medical information may also be released without authorization from the student to a court when subpoenaed, to the University legal counsel when the university is being sued and the medical information would be pertinent, and to the public health department as required by law when a student is suffering from a reportable communicable disease. In addition, cases involving firearms and criminal offenses must be reported to the police.

Location of Services. Student Health Programs on-campus services are available at the following locations. The SHP Clinic, Radiology, and Laboratory services are located in Beimfohr Hall, 115 Small Group Housing. Call 453-3311 for appointments. The Pharmacy (453-4417), Wellness Center (536-4441), Extended Care - Insurance (453-4413) and Administration offices (536-7575) are located in Kesnar Hall, 112 Small Group Housing. The SHP Student Emergency Dental Service (536-2421) is located in the College of Applied Sciences and Arts building (Technology), Room 25D. The Student Health Assessment Center (453-5238) is located in the Student Center. The Counseling Center (453-5371) is located in A Wing, 3rd floor of Woody Hall. Women's Services (453-3655) is located in B Wing, 2nd floor of Woody Hall.

Off-campus services for after-hours emergency care are available at Memorial Hospital of Carbondale at 404 West Main Street, 549-0721 and at the Urgent Care Center at the Carbondale Clinic, 2601 West Main Street, 549-5361.

Disability Support Services

Disability Support Services Office is the central SIUC office for services to students with disabilities. Support services are offered to a wide range of individuals including those with mobility impairments, blind or visual impairments, deaf or hard-of-hearing, learning disabilities, and others.

Services and programs include, but are not necessarily limited to: pre-admission planning, orientation, adapted van transportation, wheelchair repair, adapted recreational opportunities, sign language interpreters, equipment loan, tutor/notetaker/reader/personal care attendant recruitment and referral, test proctoring, accessible housing referral, closer parking exceptions, and liaison with agencies such as Illinois Department of Rehabilitation Services.

Prospective or newly admitted students should contact Disability Support Services at 618-453-5738 (voice) or 618-453-2293 (TDD) for further information.

Center for English as a Second Language

The Center for English as a Second Language (CESL) is a unit of the Department of Linguistics on the campus of Southern Illinois University at Carbondale and is staffed by members of the University faculty. The intensive English lan-

guage program at CESL is open to prospective University students, professional people, and others wanting to learn English as a second language.

Graduate students who complete or place out of the highest intensive level may enroll in a course specifically designed for their needs which meets two hours per day. Activities involving oral reports, research papers, critical reviews, and specialized readings associated with the individual student's major field of study are planned.

Graduate Teaching Assistants recommended by their departments may take a specialized course of instruction for prospective teachers. Video tapes of practice teaching are critiqued along with instruction in basic teaching techniques and methodology with a view toward improving the teacher's delivery in the English language.

The University Ombudsman

The Office of the University Ombudsman assists individuals in resolving problems that arise in the University. The office is independent from other offices of the University and reports directly to the Chancellor. The office acts on complaints or suggestions from students, faculty, and staff in an attempt to ensure that members of the University community receive fair and equitable treatment within the University. This includes ensuring that decisions affecting individuals are made promptly and with due process, not only with respect to the adequacy of the procedures used in decision making, but also with respect to the appropriateness of the criteria and rules upon which decisions are based.

The office helps individuals resolve a broad range of problems expeditiously, including academic matters, employment matters, and matters regarding the delivery of University services. Such assistance may include advising individuals on steps to take so that their claims may be heard or their questions answered, making referrals to other offices, investigating claims of unfair treatment or erroneous procedures, engaging in mediation to obtain a fair settlement, and assisting in accessing University grievance mechanisms when other methods are unsuccessful. In addition, the Ombudsman will intervene in the bureaucratic process on behalf of individuals when such process unnecessarily or unfairly impinges upon them.

The Ombudsman Office also brings to the attention of those in authority any gaps and inadequacies in existing University policies, procedures, and practices which have generated justified claims of unfair treatment or which may cause such complaints in the future.

The Ombudsman has the authority to access official files as required to fulfill the functions of the Office. However, names of persons requesting help cannot be used in the investigation of a case without permission, and all Ombudsman records and communications are kept in confidence.

The office is located in Woody Hall C302; hours are 8:00 A.M. to 4:30 P.M., Monday through Friday; and the telephone number is 618-453-2411.

2 / Academic Programs, Graduate Faculty, and Courses

The academic programs, graduate faculty, and course descriptions are outlined in this chapter.

The official descriptions of programs leading to graduate degrees are arranged below in alphabetical order. The faculty affiliated with each program is listed at the beginning of the description and the courses at the end. The college or school in which the program is located is noted and e-mail addresses are shown at the right margin. Admission and degree requirements which are listed in Chapter 1 are minimum standards. The student should consult the specific program description for additional criteria imposed by the department. All programs are cross-listed to aid in locating the official description. Several departments offer one or more concentrations as noted in Chapter 1 within the major, the requirements for these concentrations may be found in the program description.

Graduate instruction is the responsibility of the graduate faculty. The faculty listed below are arranged in terms of their departmental affiliations. Faculty teaching in interdisciplinary programs are listed under the appropriate programs and are identified as to the department in which they hold an appointment. The first of the two dates listed with the name of a faculty member indicates the year in which the highest degree was earned; the second date indicates the year when the person first became a faculty member at Southern Illinois University at Carbondale.

The 400- and 500-level courses offered by Southern Illinois University at Carbondale are listed numerically after each program description. The first entry for each course is a three-digit identification numeral. Courses numbered 400–499 are open to both seniors and graduate students, unless designated otherwise. Courses numbered above 499 are for graduate students only. Following the course identification number is another number which indicates maximum credit allowed for the course. The maximum may vary, and specific semester hours may be assigned for each term a course is offered. Following the course description may be prerequisites which must be satisfied before a student will be permitted to enroll. Graduate students will not receive graduate credit for Pass/Fail grades taken at the 400 level. Graduate credit is awarded for 500-level courses which have been approved to be graded *S/U* (Satisfactory/Unsatisfactory) only. All courses offered in a specific term will be listed in the appropriate Schedule of Classes which is published three times a year. Graduate Catalogs and Schedule of Classes books can be obtained in person at the Graduate School, Southern Illinois University, Carbondale, Illinois 62901-4716.

Accountancy
Administration of Justice
Agribusiness Economics
Animal Science
Anthropology
Applied Linguistics

Art
Behavior Analysis and Therapy
Biological Sciences
Business Administration
Chemistry
Cinema and Photography

Civil Engineering
 Communication Disorders and Sciences
 Computer Science
 Creative Writing
 Curriculum and Instruction
 Economics
 Education (Ph.D.)
 Educational Administration
 Educational Psychology
 Electrical Engineering
 Engineering
 English
 Food and Nutrition
 Foreign Languages and Literatures
 Forestry
 Geography
 Geology
 Health Education
 Higher Education
 History
 Historical Studies (Ph.D.)
 Interactive Multimedia
 Journalism
 Manufacturing Systems
 Mathematics
 Mechanical Engineering and Energy Processes

Molecular Biology, Microbiology, and Biochemistry
 Mining Engineering
 Music
 Pharmacology
 Philosophy
 Physical Education
 Physics
 Physiology
 Plant Biology
 Plant and Soil Science
 Political Science
 Psychology
 Public Administration
 Recreation
 Rehabilitation Administration
 Rehabilitation Counseling
 Social Work
 Sociology
 Special Education
 Speech Communication
 Teaching English to Speakers of Other Languages
 Telecommunications
 Theater
 Workforce Education and Development
 Zoology

Accountancy

E-mail: wacker@siu.edu

COLLEGE OF BUSINESS AND ADMINISTRATION

Barron, Mary Noel, Associate Professor, *Emerita*, C.P.A., M.B.A., University of Michigan, 1946; 1948.

Basi, Bartholomew, Professor, *Emeritus*, C.P.A., D.B.A., Indiana University, 1971; 1978.

Burger, Clifford R., Professor, *Emeritus*, C.P.A., M.S., Indiana State University, 1947; 1958.

Gribbin, Donald, Associate Professor, C.P.A., Ph.D., Oklahoma State University, 1989; 1989. Managerial and cost accounting.

Hahn, Randall, Associate Professor, C.P.A., Ph.D., University of Kentucky, 1984; 1984. Taxation and auditing.

Karnes, Allan, Associate Professor and *Director*, C.P.A., M.A., J.D., Southern Illinois University at Carbondale, 1986; 1977. Taxation and auditing.

King, James, Associate Professor, C.P.A., Ph.D., Indiana University, 1988; 1987. Behavioral auditing and financial accounting.

Masoner, Michael M., Associate Professor, C.P.A., Ph.D., University of Minnesota, 1975; 1978. Accounting systems and cost accounting.

Rivers, Richard, Associate Professor, C.P.A., D.B.A., Kent State University, 1976; 1978. Quantitative decision models, information systems and managerial accounting.

Sobery, Julie, Associate Professor, C.P.A., Ph.D., Saint Louis University, 1982; 1985. Financial accounting and accounting theory.

Swick, Ralph D., Professor, *Emeritus*, C.P.A., D.B.A., Indiana University, 1954; 1955.

Tucker, Marvin W., Professor, *Emeritus*, Ph.D., University of Alabama, 1966; 1966. Managerial and cost accounting.

Wacker, Raymond, Associate Professor, C.P.A., Ph.D., University of Houston, 1989; 1989. Taxation.

Welker, Robert B., Rehn Professor of Accountancy, Ph.D., Arizona State University, 1977; 1987. Managerial accounting and accounting theory.

Wright, Roland M., Professor, *Emeritus*, C.P.A., Ph.D., University of Iowa, 1962; 1966.

Wu, Fred, Professor, *Emeritus*, C.M.A., Ph.D., Texas Tech University, 1975; 1984.

The objective of the Master of Accountancy degree program is to provide an opportunity for students to achieve greater breadth and depth in the study of accountancy than is possible in the baccalaureate program. As preparation for a dynamic profession the curriculum fosters clear, logical, and analytical thought processes, effective oral and written communications, and life-long learning

skills. Graduates pursue careers as professional accountants in public practice, industry, financial institutions, government, and other not-for-profit organizations.

Admission

Applicants for admission to the program are required to:

- 1. Complete all requirements for admission to graduate study as specified by the Graduate School.
- 2. Complete the Graduate Management Admissions Test (GMAT). Information regarding the GMAT is available through: Graduate Management Admission Test, Educational Testing Service, Box 966, Princeton, NJ 08540.

The results of the test must be mailed directly to the director of the M.Acc. Program.

A non-refundable application fee of \$20.00 must be submitted with any application to the accountancy program. Attach your check or money order, payable to Southern Illinois University, to the top of the application form. Do not send cash. Only checks or money orders payable to United States banks will be accepted.

Admission to the program is based on a composite of 1) undergraduate grade point average times 200, and 2) GMAT overall score (with minimum verbal percentile of 30%). These two factors are added together to arrive at a composite score. A composite score of 1100 is required to be admitted into the program. For example, an undergraduate grade point average of 3.2 with a GMAT of 550 would yield a composite score of 1190.

Students whose native language is not English will be required to obtain an acceptable score (presently 550) on the Test of English as a Foreign Language (TOEFL) examination before being admitted to the Master of Accountancy degree program.

Notification of admission to the Master of Accountancy degree program is by letter from the director, Master of Accountancy degree program. This letter must be presented by the student prior to enrollment and registration in the program.

Degree Requirements

The Master of Accountancy degree program includes two specializations from which to choose: 1) Taxation, and 2) Audit/Systems. Degree requirements are dependent upon the specialization chosen.

Taxation Specialization:

- a. The following course is required — 3 hours.
BA 514-3 Ethics of Business (formerly ACCT 561)
- b. Select 6 from the following 8 courses — 18 hours.
ACCT 541-3 Tax Concepts
ACCT 542-3 Tax Research and Procedure
ACCT 543-3 Corporate Taxation
ACCT 544-3 Partnership Tax
ACCT 545-3 Estate Planning
ACCT 546-3 Seminar: Selected Tax Topics (541)
ACCT 547-3 Tax Accounting Principles
ACCT 548-3 International Taxation
- c. Select 1 from the following 3 — 3 hours.
ENG 491-3 Technical Writing or ENG 490-3 Expository Writing
LAW -3 Elective from the approved list of Law School courses.
BA 530-3 Financial Management
- d. Select 2 electives approved by the M.Acc. director — 6 hours.

Audit/Systems Specialization:

- a. The following course is required — 3 hours.
BA 514-3 Ethics of Business (formerly ACCT 561)
- b. Select 6 from the following 7 courses — 18 hours.
ACCT 521-3 Issues in Accountancy
ACCT 551-3 Accounting Information Systems I
ACCT 552-3 Accounting Information Systems II
ACCT 532-3 Advanced Management Accounting
ACCT 562-3 Computer Auditing
ACCT 590-3 Seminar in Accounting
ACCT 561-3 Advanced Auditing
- c. Select 2 from the following 3 courses — 9 hours.
ENG 491-3 Technical Writing or ENG 490-3 Expository Writing
BA 456-3 Building Design Support and Expert Systems
(ACCT 351 would probably meet the prerequisite of MGMT 345)
BA 560-3 Management Information Systems
- d. Select 1 from the following 4 — 3 hours.
MGMT 548b/c-3 Decision Support/Expert Systems
BA 561-3 Data Base Design & Applications (BA 560)
or MGMT 420-3 Undergraduate equivalent
BA 562-3 Analysis, Planning & Design of Info. Systems (BA 560)
or MGMT 421-3 Undergraduate equivalent
BA 530-3 Financial Management
(No more than 6 hours at the undergraduate level)

A student who does not have any undergraduate work in accounting will be required first to make up deficiencies in the following areas: intermediate accounting, cost accounting, tax, accounting information systems, and auditing.

A student must also complete the common body of knowledge requirements specified by the AACSB. A student who has graduated from an undergraduate accredited (AACSB) business school should have met this requirement. A student who has any deficiencies in any areas required by the AACSB will be required to make up these deficiencies before receiving the Master of Accountancy degree.

The full-time student who qualifies for the minimum program in terms of course work requirements normally may expect to complete the Master of Accountancy degree in one calendar year (two semesters and one summer session). The professional nature of this program requires that the course, writing requirements, oral communications, special lectures, case studies, computer applications, colloquia, independent study, and research activities be presented in an integrated manner which stresses the program aspects at all times. This requires serious and extensive personal commitment to the program on the part of all candidates.

In order to meet the graduate requirements the student must obtain a 3.0 grade point average (4.0 = A) and obtain a B or better in eighty percent of all graduate level courses taken after admission to the M.Acc. program.

Areas of Emphasis

A student who has an undergraduate degree in accounting or one who has satisfied the accounting common body of knowledge may arrange the additional 15 hours of graduate courses beyond the core requirement to form a specific area of emphasis (taxation, information systems, managerial accounting and control, auditing, or not-for-profit accounting). Emphases are developed with the advice and consent of the student's adviser.

3-2 Program

A 3-2 program within the College of Business and Administration and the School of Accountancy is available to qualified students within the college, transfer students, and students majoring in areas other than business. The program permits a student to devote a part of the last 2 years of undergraduate study to fulfilling the foundation course requirements for business and accounting required for the Master of Accountancy degree. Upon completion of the requirements for the bachelor's degree, the student may apply for admission to the Graduate School and the Master of Accountancy degree program. Students who successfully complete the program would thus have a 5 year program required for certification in some states.

Concurrent J.D. and M.Acc. Program

A student who has been admitted separately to the School of Law and to the M.Acc. program may apply for permission to study concurrently for both the Juris Doctor and Master of Accountancy degrees. This permission must be requested from both the School of Law and the School of Accountancy, ordinarily prior to entry into the second year curriculum of the School of Law.

During the first academic year of concurrent work on the two degrees, the student enrolls only in the first-year law curriculum. In any subsequent academic term, the student may enroll for courses either in the School of Law or in the Master of Accountancy program. A student registered for both law and graduate courses in the same term must enroll for a minimum of 10 hours in law, and 12 semester hours in total, in order to meet A.B.A. residence requirements and the academic requirements of the School of Law.

Completion of the concurrent program requires that the student successfully complete 81 semester hours of law courses and 30 semester hours of courses that meet M.Acc. requirements. Up to 9 semester hours of the 30 may be School of Law courses which are also part of the 81 hours required for the Juris Doctor degree. School of Law courses counting for graduate credit toward the Master of Accountancy degree must be approved by the director of the Master of Accountancy program. Further, no more than 6 of the 30 semester credit hours may be taken in courses at the 400 level for graduate credit.

Other Graduate Degrees Offered by the College

The College of Business and Administration also offers the Master of Business Administration (M.B.A.) degree with specialization in finance, management, and marketing and the Doctor of Business Administration (D.B.A.) degree. Information relative to these degrees may be obtained from the associate dean for graduate programs, College of Business and Administration.

Courses (ACCT)

421-3 Advanced Accounting. Accounting principles and procedures relating to specialized topics, including partnership equity, installment and consignment sales, fiduciaries, international operations, branches, and business combinations. Prerequisite: junior standing and limited to accounting majors or consent of school; a grade of C or better in 322.

431-3 Advanced Cost Accounting. Managerial decision making; profit planning and control through relevant costing, return on investment and transfer pricing, determination of cost behavior patterns, analysis of variances, capital budgeting, inventory models, probabilities, statistical methods and operations research. Prerequisite: junior standing and limited to accounting majors or consent of school; 331 with grade of C or better.

441-3 Advanced Tax. Study of income tax problems which arise from sole proprietorship, partnership, corporation, estate and trust of organization. Brief study of social security, federal and state estate tax and gift tax. Student does research in source materials in arriving at solutions of complicated problems. Prerequisite: junior standing and limited to accounting majors or consent of school; 341 with grade of C or better.

451-3 Accounting Systems Operation. The study of accounting information systems, their technology and the management decision process supported by those systems. Prerequisite: junior standing and limited to Accounting majors or consent of school; a grade of C or better in Accounting 321; Computer Science 212 or Information Management Systems 229.

461-3 Advanced Auditing. (Same as Accounting 561) The study and application of selected auditing concepts and techniques. Hands-on application will be emphasized. Prerequisite: junior standing; 361 with grade of C or better.

471-3 Accounting for Public Organizations. Financial and managerial accounting concepts peculiar to the planning and administration of public and quasi-public organizations, such as governmental units, institutions, and charitable organizations. Includes the conventional budgetary-appropriation process, as well as some of the more recent accounting developments related to public decision making. Prerequisite: For Accounting majors, 230 with grade of C or better.

512-3 to 18 (3 per topic) Accounting Research Methods Seminar. An advanced seminar critically analyzing research methods employed to study problems existing in a subarea of accounting thought, which may be repeated for credit in terms of sections (a) through (f). Sections (a) through (f) may be taken only once each. (a) Auditing, (b) Financial accounting, (c) Managerial accounting, (d) Not-for-profit accounting, (e) Accounting information systems, (f) Taxation. Prerequisite: Business Administration 513 or consent of the school.

521-3 Emerging Issues in Accountancy. Identifies developing areas in financial accounting and forces students to research the issues, to think critically, evaluate alternatives and communicate conclusions in oral and written form. International accounting, not-for-profit, standard setting and regulation, and other developing issues are addressed. *The Journal of Accountancy*, other professional journals, and guest speakers. Prerequisite: 321, 322, or consent of instructor.

532-3 Advanced Management Accounting. Management planning and control decisions and design and evaluation of management accounting systems requiring formal models and application of vigorous analytic reasoning. Integration and synthesis of techniques such as regression analysis, linear programming, decision theory and behavioral science for important decisions of the firm. Information economics. Contemporary research directories. Prerequisite: enrollment in M.Acc. or M.B.A. program or consent of instructor.

541-3 Tax Concepts. Provides the student with an understanding of the nature of the federal tax law and an appreciation of the law's impact upon business decisions both for individuals and companies. Prerequisite: 341 or consent of instructor.

542-3 Tax Research and Procedure. Provides the student with a working knowledge of the tax practitioner's methodology applied to the solution of both routine and complex tax problems. Prerequisite: enrollment in M.Acc. program or consent of instructor.

543-3 Corporate Taxation. Provides students with in-depth exposure to federal income taxation of corporations and shareholders. Areas explored are corporate formations, distributions, redemptions, liquidations, subchapter S election, corporate income tax, accumulated earnings tax, personal holding company tax and affiliated corporations. Prerequisite: enrollment in M.Acc. program or consent of instructor.

544-3 Partnership Taxation. Provides students with in-depth exposure to the federal income taxation of partnerships and partners. Areas explored are the definition of a partnership, acquisition of an interest, basis of interest, tax accounting for partnership operation, distributions, termination, sale or exchange of interest, collapsible partnerships, death or retirement and tax shelters. Prerequisite: enrollment in M.Acc. program or consent of instructor.

545-3 Estate Planning. A comprehensive study of the various aspects of estate planning, including an analysis of the impact of the federal estate and gift tax laws. In addition, the role of wills, trusts, insurance and other related legal topics necessary to formulate a comprehensive plan is emphasized. The case approach will be utilized wherever feasible. Prerequisite: enrollment in M.Acc. program or consent of instructor.

546-3 Seminar: Selected Tax Topics. Provides students with in-depth exposure to federal income taxation of selected topics. Topics will vary from semester depending upon instructor and topics of current interest. Prerequisite: 541 or consent of instructor.

547-3 Tax Accounting Principles. Provides linkage of accounting skills with tax knowledge through identification of significant differences between tax and financial accounting and selection of tax accounting principles having a significant impact on cash flows. Tax accounting problems for industrial, wholesale and retail companies. Prerequisite: 541 or equivalent and 421.

548-3 International Taxation. Examination of tax accounting problems when taxable events transcend national boundaries. Use of transfer pricing for international taxation purposes. Specific international taxation problems of foreign persons, U.S. citizens living abroad, U.S. shareholders for foreign corporations and special problems related to multinational corporations. Prerequisite: 541 or equivalent and 531 or consent of the School of Accountancy.

551-3 Accounting Information Systems Control and Development. A comparison of operation, control and development of alternative accounting information systems. A study of selected technology for accounting systems development. Prerequisite: 451 or consent of school; enrollment in M.Acc. program or consent of school.

552-3 Accounting Information Systems Development. A study of selected technology for accounting information systems development. Emphasizes design and implementation of particular computerized information systems for diverse uses and purposes. Prerequisite: 551, enrollment in M.Acc. program or consent of school.

561-3 Advanced Auditing. (Same as Accounting 461) The study of current and historical critical evaluations of the accounting and auditing professions. Provides an advanced technical understanding of the auditing process and develops written and oral communication skills essential to success in the auditing profession. Prerequisite: admission into the M.Acc. program.

562-3 Computer Auditing. The study of electronic issues as they pertain to the attestation function, including internal control, auditing automated systems and the use and application of automated auditing procedures and techniques.

Prerequisite: 561, enrollment in M.Acc. program or consent of school.

571-3 Not-For-Profit Accounting. The study of accounting principles and practices of schools, hospitals, governmental agencies, the arts and other not-for-profit organizations. Emphasis is on financial reporting. **Prerequisite:** enrollment in M.Acc. program or consent of instructor.

590-3 Seminar in Accounting. Discussion of current accounting theories, principles standards and problems. **Prerequisite:** enrollment in M.Acc. program or consent of instructor.

591-1 to 6 Independent Study. Directed independent study in selected areas of accountancy. **Prerequisite:** enrollment in M.Acc. program.

595-3 Internship. Supervised work experience in professional accounting. **Prerequisite:** outstanding

record in accounting and recommendation of the department committee on internship. Graded *S/U* only.

599-3 to 6 Thesis. **Prerequisite:** enrollment in M.Acc. program.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Administration of Justice

E-mail: crimjust@siu.edu

COLLEGE OF LIBERAL ARTS

Anderson, Dennis B., Associate Professor, Ed.D., University of Nebraska, 1970; 1970. Educational psychology; forensic and criminal justice psychology.

Castellano, Thomas C., Associate Professor, Ph.D., State University of New York, Albany, 1986; 1986. Criminal justice; juvenile justice; research methods.

Coughlin, Joseph S., Professor, *Emeritus*, M.S.W., A.C.S.W., University of Wisconsin, 1954; 1973.

Ferdinand, Theodore N., Professor, *Emeritus*, Ph.D., University of Michigan, 1961; 1985.

Garofalo, James, Professor and *Director*, Ph.D., State University of New York, Albany, 1978; 1992. Criminal Justice; victims of crime; policing; crime prevention; research and analysis.

Hurst, Yolander G., Assistant Professor, Ph.D., University of Cincinnati, 1997; 1997. Criminal justice; juvenile delinquency; criminological theory.

Johnson, Elmer H., Distinguished Professor, *Emeritus*, Ph.D., University of Wisconsin, 1950; 1966.

LeBeau, James L., Associate Professor, Ph.D., Michigan State University, 1978; 1985. Geography; geography of crime and criminal justice; law enforcement; quantitative methods.

Lorinkas, Robert, Associate Professor, Ph.D., University of Georgia, 1973; 1980. Political science; security.

Matthews, Charles V., Associate Professor, *Emeritus*, M.A., University of Kansas City, 1951; 1962.

McDermott, M. Joan, Associate Professor, Ph.D., State University of New York, Albany, 1979; 1992. Criminal Justice; juvenile delinquency and juvenile justice; women, crime and criminal justice; victims of crime; policy analysis.

Riedel, Marc P., Associate Professor, Ph.D., University of Pennsylvania, 1972; 1978. Sociology; research methods; violence.

Robinson, Cyril D., Professor, *Emeritus*, LL.B., Northwestern University, 1952; 1979.

Small, Mark A., Associate Professor, J.D., Ph.D., University of Nebraska, 1990; 1990. Psychology and law; mental health law; privacy; children and the law; program evaluation.

Sundt, Jody L., Assistant Professor, Ph.D., University of Cincinnati, 1998; 1998

Szockyj, Elizabeth, Assistant Professor, Ph.D., University of California, Irvine, 1992, 1994. Criminology; white-collar crime; government crime; juvenile justice; community corrections; research methods.

The Center for the Study of Crime, Delinquency, and Corrections enjoys both a national and an international reputation for quality research and an outstanding educational program. Through many relationships with operating agencies, students are afforded unique opportunities to gain practical experience as an integrated part of their academic work.

A number of opportunities for financial support are offered through the special programs and research projects conducted by individual faculty. In addition, a number of fellowships are offered, for which qualified students are encouraged to apply.

The Center for the Study of Crime, Delinquency, and Corrections offers the Master of Arts degree in the administration of justice. The curriculum is a multi-disciplinary study of crime, its causes and settings, and systematic means of responding to it. The curriculum prepares students for careers in law enforcement,

correctional services and administration, teaching, criminal justice research and planning, and private security management. Augmenting the academic program, there are opportunities for graduate students to work with faculty members who are conducting research and designing innovative projects in the field. Students are encouraged to take Supervised Field Experience credit to ensure a blending of practical experience with classroom education.

For students who complete the master's degree in administration of justice and who wish to pursue the Ph.D., opportunities are available through a cooperative arrangement between Administration of Justice and the Department of Sociology.

Admission

Full admission to the graduate program requires a grade point average of at least 2.70 or better ($A = 4.00$) on approximately the last 60 hours of undergraduate coursework and acceptance by the faculty. Scores on the Graduate Record Examination (aptitude portion only) are also required. The Test of Written English will be required as a component of the regular TOEFL exam.

Students who do not have an undergraduate degree in administration of justice or criminal justice should have a minimum of 12 units in sociology, psychology, political science, or other social sciences. In cases where these criteria are lacking, additional selected undergraduate courses may be required for acceptance in this program.

An introductory statistics course is required of all incoming graduate students. This requirement can be satisfied in one of two ways: a) approval by the graduate affairs committee of a course previously taken by the student; or b) successful completion of an approved statistics course during the student's graduate course work.

Requirements

A total of 36 semester hours are required for the Master of Arts degree in administration of justice. Students may complete the degree under a thesis or field research option.

Required Core Courses. All candidates for the Master of Arts degree in the administration of justice are required to complete five core courses. These consist of two didactic courses:

AJ 500-3 Foundations of Criminal Justice

AJ 516-3 Scope and Methods of Criminal Justice Inquiry

In addition, the student must take one research related course which provides skills that contribute to the generation of knowledge and more thorough utilization of existing information. Appropriate courses include quantitative methods such as AJ 517, Quantitative Techniques in Criminal Justice Research, AJ 588b, Policy and Program Evaluation, ED PSYC 507 or POLS 503. Other courses to meet this requirement must be approved by the student's graduate adviser. The statistics requirement for incoming graduate students will not satisfy this requirement.

Two of the following three courses are also required.

AJ 504-3 Criminological Theory

AJ 562-3 Fundamental Legal Concepts in the Administration of Justice

AJ 584-3 Administration and Management in Criminal Justice

Curricular Emphases

The Master of Arts degree is broadly conceived so the student can seek an individualized program appropriate to either continued graduate studies or a particular field of work. Each student is encouraged to work with a faculty adviser to tailor a program of studies around his or her areas of interest. Examples of

Curricular Emphases include: Juvenile Delinquency and Juvenile Justice, Policing, Corrections, Research in Criminal Justice, Administration and Management, and Criminology.

Supervised Field Experience

Six credits of supervised field experience is required for all students pursuing the field research option. Supervised field experience may also be taken as an elective by any student. Students may take a total of 12 hours supervised field experience; however, only 6 hours may be counted toward the semester hours required for the master's degree.

AJ 595a-3 to 6 Supervised Field Experience, graded *S/U*

AJ 595b-3 to 6 Supervised Field Experience, letter graded

Thesis Option

Students choosing the thesis option may take a total of 6 thesis semester hours (AJ 599-1 to 6); however, only 3 hours are counted towards the degree requirements. An oral defense of the student's thesis is required in this option.

Field Research Option

Students choosing the field research option may take a total of 6 individualized research semester hours (AJ 591-1 to 6); however, only 3 hours are counted towards the degree requirements. Students pursuing this option are required to defend their supervised field experience report publicly.

Application and Further Information

Application forms for both the Graduate School and the Department of Administration of Justice must be submitted separately. Upon request to the department, application forms from the Graduate School and the department will be sent. Acceptance in the program is contingent on the final approval of the administration of justice graduate affairs committee after admission to the Graduate School.

A non-refundable application fee of \$20.00 must be submitted with the application. Attach your check or money order, payable to Southern Illinois University, to the top of the application form. Do not send cash. Only checks or money orders payable to United States banks will be accepted.

A more detailed description of the graduate program, as well as information about graduate assistantships and fellowships, may be obtained by writing: Graduate Secretary, Center for the Study of Crime, Delinquency, and Corrections, Southern Illinois University at Carbondale, Carbondale, IL 62901-4504.

Courses (AJ)

The following courses are offered through the Center for the Study of Crime, Delinquency and Corrections.

402-3 Group and Family Treatment in Criminal Justice. Presentation of theoretical knowledge and practical techniques utilized in major group and family treatment approaches for adults and juveniles in institutions, community-based correctional programs and transitional living situations. Prerequisite: 201, 290 and 316 or consent of instructor.

403-3 to 9 (3 per topic) Enforcement Operations. (a) Advanced investigation; (b) Enforcement management; (c) Enforcement discretion. Each course topic focuses on a major theme in law enforcement. Prerequisite: (a), (b), and (c): 201, 290 306 and 316 or consent of instructor; additionally for (a) 303; and for (b) 302.

408-3 Criminal Procedure. An introduction to the procedural aspects of criminal law pertaining to police powers in connection with the laws of arrest, search and seizure, the exclusionary rule, civil liberties, eavesdropping, confessions and related decision-making factors. Prerequisite: 201, 290, 310 and 316 or consent of instructor.

415-3 Prevention of Crime and Delinquency. Multidisciplinary analysis of the functions, goals and effectiveness of measures to forestall delinquency and crime. Etiology of delinquent behaviors as related to community institutions such as police, courts, corrections, mental health clinics, schools, churches and citizen groups. Prerequisite: 201, 290 and 316 or consent of instructor.

418-3 Criminal Violence. Examination of historical, comparative, cultural and social structural aspects of homicide, robbery, rape and assaults. Course focuses on trends and patterns in criminal violence, the role of firearms, victim/offender relationships and post-arrest processing of the offender in the criminal justice system. Prerequisite: 201, 290 and 316 or consent of instructor.

450-3 Public and Private Security. An overview of important issues related to security and loss prevention in the public and private sectors. Covers security's historical development; its current role, and the relationship between the public and private sectors. Prerequisite: 201, 290, 316 and 350 or consent of instructor.

451-3 Forensic Interrogation. Forum focusing on forensic interrogation. Conceptual framework for understanding behavioral and psychological aspects of the process; discussion of its historical and philosophical development, use in criminal and private security investigations, legal proceedings and role in a democratic society. Provides both theoretical grounding and hands-on experience. Prerequisite: 201, 290 and 316 or consent of instructor.

460-3 Women and the Criminal Justice System. (Same as Women's Studies 476.) Addresses the topics of women as offenders, as victims, and as workers in the criminal justice system. Prerequisite: 201, 290 and 316 or consent of instructor.

461-3 White-Collar Crime. Examines the physical and financial harm caused by wayward corporations and business employees from both theoretical and empirical perspectives. Emphasis is placed on ethics, theory, legal decision-making and the regulatory monitoring and control of illegal corporate activity. Prerequisite: 201, 290 and 316 or consent of the instructor.

462-3 Victims of Crime. Examines the extent and nature of victimization, theories about the causes of victimization, the effects of crime on victims and services available to deal with those effects, victims' experiences in the criminal justice system, the victims' rights movement and alternative ways of defining and responding to victimization. Prerequisite: 201, 290 and 316 and the consent of the instructor.

468-3 Law and the Social Control of Women in American History. (Same as History 468 and Women's Studies 468) An examination of the ways in which the law affects the behavior, life chances, identities and experiences of women, from colonial times to the present. Team taught by faculty from History and Administration of Justice.

473-4 Juvenile Delinquency. (See Sociology 473.) Prerequisite: 201, 290 and 316 or consent of instructor.

474-3 Juvenile Justice. The evolving definition of juvenile misbehavior and the legal mechanisms that have emerged to control it. The problems and promise of juvenile justice in terms of the juvenile code and court, law enforcement, custodial and treatment institutions and community treatment. Prerequisite: 201, 290 and 316 or consent of the instructor; 473 or equivalent recommended.

476-3 Comparative Criminal Justice. Examination of sociocultural and political factors shaping criminality and responses to crime around the world. Similarities and differences in criminological

conditions and practices of law enforcement and corrections are traced. Prerequisite: 201, 290 and 316 or consent of instructor.

477-3 Theoretical Analyses of Crime. Examination of theories of crime and criminality. Major topic areas include types of theories, the development and testing of theories, explanations of the kinds and degrees of crime observed in society, and explanations of processes involved in the development of criminal behavior. Emphasis is on current directions in theories of crime. Prerequisite: 201, 290 and 316 or consent of instructor.

484-3 Correctional Institutions. (Same as Sociology 484) Examination of the roles, purposes, structures and functioning of institutional corrections within the U.S. Emphasis is placed on understanding the philosophies, elements, structures and programs that shape current institution operations and their impacts on offenders, staff and the community. Prerequisite: 201, 290, 316 or the consent of instructor.

485-3 Corrections and the Community. Traditional correctional functions are redefined to emphasize the development of resources in communities, diversion of convicted offenders from institutions and direct involvement of correctional programs in community affairs. Prerequisite: 201, 290 and 316 or consent of instructor.

490-1 to 3 Independent Study in the Administration of Justice. Supervised readings or independent research projects in various aspects of crime control, treatment of offenders, and the management of criminal justice programs and agencies. May be repeated up to a maximum of three credit hours. Prerequisite: 201, 290 and 316 and consent of instructor.

492-3 Contemporary Issues in Administration of Justice. A forum, geared toward seniors, majoring in administration of justice, that focuses on criminal justice issues of concern to students and faculty. May re-enroll for a maximum of six credits. Prerequisite: 201, 290 and 316 and consent of instructor.

500-3 Foundations of Criminal Justice. An exploration of the nature and scope of the criminal justice process. Criminal justice operations and behavior are assessed in context of the major theoretical, historical, normative and organizational influences found in the field.

504-3 Criminological Theory. Multidisciplinary study of biogenic, psychogenic and sociogenic explanations for criminal behavior relevant to policy-making and practice in criminal justice. Prerequisite: consent of instructor.

516-3 Scope and Method of Criminal Justice Inquiry. Principles of scientific inquiry applied to the study of crime and criminal justice. Examines the interrelationship of theory and research techniques, development of hypotheses and problem statements, different approaches to data collection and research designs.

517-3 Quantitative Techniques in Administration of Justice Research. Examination and application of advanced statistical techniques often utilized in criminal justice research.

562-3 Fundamental Legal Concepts in the Administration of Justice. Includes the origin of rights, a review of the historical development and current use of civil rights; due process, equal protection and cruel and unusual punishment; af-

firmative action, the limits of governmental action; and the application of these doctrines to various populations such as criminal justice personnel, prisoners, women and minorities.

571-3 Correctional Systems in Criminal Justice. Evaluation of corrections as a system, its programmatic interrelationships and conflicts and the probable course of its future development. Prerequisite: consent of instructor.

578-1 to 4 Seminar in Correctional Rehabilitation Counseling. Review of major issues and research relative to rehabilitation practices in youth and correctional settings. Prerequisite: consent of instructor.

580-3 Planning for Change in the Administration of Justice. Examines the planning of change in criminal justice. Presents perspectives and models used in understanding the dynamics of planned change and why change efforts succeed or fail. Discusses types of change strategies, targets of change and levels of intervention with focus on broad-based organizational and system-level change.

582-3 Criminal Law and the Correctional Process. Basic principles and administration of the criminal law and the legal foundations of the juvenile court, the sentencing process, parole and probation and the changing concept of mental competency. Includes statutory, case, and administrative law requirements of "due process" in correctional services.

584-3 Administration and Management in Criminal justice. Focuses on the development and history of administrative theory and its impact on management techniques involving administration of justice bureaucracies.

587-3 Seminar in Law Enforcement. Multidisciplinary study of the philosophical premises, theoretical implications and functions of contemporary law enforcement. Prerequisite: consent of instructor.

588-3 to 6 (3 per topic) Selected Topics in the Administration of Justice and Public Safety. (a) Personnel administration. Issues and processes in the education, selection, training, and promotion of administration of justice personnel are reviewed. (b) Policy and program evaluation. Examination of approaches and problems in the analysis and evaluation of criminal justice personnel, policy and problems, with attention paid to both process and outcome analyses.

590-1 to 6 Supervised Readings in Selected Subjects. Readings supervised by a faculty member in a selected area of the Administration of Justice. May be repeated with different topics up to a maximum of six credits. Prerequisite: consent of a faculty sponsor.

591-1 to 6 Field Project Research. A requirement for the non-thesis option directed by a faculty committee. Usually represents an applied research project addressing an issue/problem confronted during supervised field work (595a and 595b). Graded *S/U* only. Prerequisite: consent of graduate faculty advisor.

592-3 to 6 (3,3) Advanced Seminar in Administration of Justice. Seminars of varied content for advanced students. May be repeated with different topics up to a maximum of six credits. Prerequisite: consent of instructor.

595A-3 to 6 Supervised Field Experience. Experience in law enforcement agencies, juvenile courts, probation and parole departments, correctional institutions, delinquency control programs and public or voluntary agencies. Orientation sessions precede placement. Student must submit internship application during the first 30 days of the preceding spring or fall semester. Graded *S/U* only. Prerequisite: consent of instructor.

595B-3 to 6 Supervised Field Experience. Experience in law enforcement agencies, juvenile courts, probation and parole departments, correctional institutions, delinquency control programs and public or voluntary agencies. Orientation sessions precede placement. Student must submit internship application during the first 30 days of the preceding spring or fall semester. Graded on a letter grade basis. Prerequisite: consent of instructor.

599-1 to 6 Thesis. Graded *S/U* only. Prerequisite: consent of academic coordinator.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Agribusiness Economics

E-mail: ldavid@siu.edu

COLLEGE OF AGRICULTURE

Beaulieu, Jeffrey R., Associate Professor, Ph.D., Iowa State University, 1984; 1983.

Beck, Roger J., Associate Professor, Ph.D., Pennsylvania State University, 1977; 1984.

Eberle, Phillip R., Associate Professor, Ph.D., Iowa State University, 1983; 1983.

Harris, Kim S., Associate Professor, Ph.D., University of Illinois, 1985; 1984.

Herr, William McD., Professor, *Emeritus*, Ph.D., Cornell University, 1954; 1957.

Keeper, Wendell E., Professor, *Emeritus*, Ph.D., Cornell University, 1938; 1950.

Kraft, Steven E., Professor and *Chair*, Ph.D., Cornell University, 1976; 1980.

Rendleman, C. Matthew, Assistant Professor, Ph.D., Purdue University, 1989; 1994.

Solverson, Lyle, Associate Professor, Ph.D., University of Wisconsin, 1967; 1966.

Wills, Walter J., Professor, *Emeritus*, Ph.D., University of Illinois, 1952; 1956.

The Department of Agribusiness Economics (ABE) offers graduate work leading to the Master of Science degree with a major in agribusiness economics. A program of concurrent study leading to the award of two master's degrees, the Master of Business Administration and Master of Science with a major in agribusiness economics can be undertaken. An interdisciplinary degree at the Master of Science level may be achieved by completing requirements as a double degree major.

Graduate students with a minimal undergraduate grade point average of 2.7 (4.0 scale) and demonstrated competence in economics, statistics, mathematics, and agricultural economics are admitted on an unconditional basis to the ABE Master of Science degree programs. Students with insufficient background may be admitted contingent upon demonstration of satisfactory completion of undergraduate courses in deficient areas.

Application forms for admission to the Graduate School are available from the Agribusiness Economics Department. Inquiries concerning financial assistance and additional information should be directed to the chair of the Department of Agribusiness Economics, Mail Code 4410, Southern Illinois University at Carbondale, Carbondale, IL 62901-4410.

Agribusiness Economics Concentration

Through selected coursework and research students may specialize in resource and environmental economics, economic and rural development, agribusiness management and finance, agricultural marketing and prices, farm production management, and international trade and agricultural policy.

The Master of Science degree major in agribusiness economics with a concentration in agribusiness economics is awarded upon completion of required coursework with a minimum graduate grade point average of 3.0 (4.0 scale) in either of two options; a thesis or a non-thesis (research paper) option. For both options at least 15 hours must be at the 500 level.

The thesis option requires satisfactory completion of thirty hours of graduate credit. This includes thirteen hours in structured agribusiness economics courses; ABE 500a, 500b, 551, 552, and 581. Eleven hours of elective graduate credit are selected based upon recommendation from the agribusiness faculty member directing the student's thesis work. A research component including six hours of ABE 599 and an oral examination is required.

The non-thesis option requires satisfactory completion of thirty-six hours of graduate credit. This includes thirteen hours in structured agribusiness economics courses; ABE 500a, 500b, 551, 552, and 581. Twenty-one hours of elective graduate credit are selected based upon recommendation from the agribusiness faculty member acting as the student's research paper advisor. Six of these elective hours are selected from structured agribusiness economics courses offered at the 400 level. A research component including two hours of ABE 593 and an oral presentation of the student's research paper is required.

Agricultural Services Concentration

The agricultural services concentration is designed to permit individuals who are professionals in private industry or public service to earn a Master of Science degree with a major in agribusiness economics while remaining fully employed in the agricultural sector.

A minimum of 30 hours of graduate credit, including a thesis, or 36 hours of graduate credit, including a research paper, is required for the Master of Science degree major in agribusiness economics with a concentration in agricultural services. At least 15 hours must be at the 500 level. Fifteen hours must be agricultural courses. The research component for the thesis and non-thesis options are as specified for the Agribusiness Economics Concentration.

M.B.A./M.S. in Agribusiness Economics Concurrent Degree Program

The Department of Agribusiness Economics (ABE) and the College of Business and Administration together offer an M.B.A./ABE M.S., a concurrent degree program leading to both the Master of Business Administration and the Master of Science with a major in agribusiness economics. The separate M.B.A. degree requires completion of 32 semester hours of coursework; the M.S. with a major in ABE requires the completion of 30 semester hours (thesis option) or 36 hours (non-thesis option). In the concurrent M.B.A./M.S. degree program, the College of Business and Administration accepts six semester hours of ABE approved coursework, and ABE accepts six semester hours of College of Business and Administration approved coursework. The end result is that the concurrent degree requires completion of 26 semester hours of College of Business and Administration approved courses and 24 semester hours of ABE approved courses (thesis option) or 30 semester hours of ABE approved courses including a minimum of 6 semester hours of ABE courses at the 400 level (non-thesis option), or a decrease of 12 semester hours from pursuing both degrees separately.

The ABE M.S. as a part of this option requires satisfactory completion of ABE 500a, 500b, 551, 552, and 581 and additional elective hours. A research component of a thesis (thesis option) or research paper (non-thesis option) as specified for the Agribusiness Economics Concentration must be completed for award of the ABE M.S.

Students interested in enrolling in the concurrent M.B.A./ABE M.S. program must apply to and be accepted by both the graduate programs in the ABE Department and the College of Business and Administration. The student then may request permission to pursue the concurrent degree. Students enrolled in either the M.B.A. or ABE M.S. may subsequently seek permission to pursue the concurrent degree. Admission to the concurrent degree must be completed at least one semester before the last semester of registration at SIUC. The student must complete the requirements of the concurrent degree program to receive both the M.B.A. and ABE M.S. If the student elects, after acceptance into the concurrent degree program, to pursue either, but not both, the M.B.A. or ABE M.S., all requirements of the individual degree program must be satisfied.

Courses (ABE)

Field trips are required for certain courses.

401-3 Agricultural Law. Relations of common-law principles and statutory law to land tenure, farm tenancy, farm labor, farm management, taxation and other problems involving agriculture. Prerequisite: junior standing or consent of instructor.

402-1 to 6 Problems in Agribusiness Economics. Designed to improve the techniques of agribusiness economics workers through discussion, assignment, and special workshops on problems related to their field. Emphasis will be placed on new innovative and currently developed techniques for the field. Prerequisite: consent of chair.

440-3 Land Resource Economics. The use of land as an economic variable in production of goods and services; land markets; public versus private land use conflicts; and land-use planning in an institutional setting. Prerequisite: 12 hours of agricultural economics or economics credit, or graduate status or consent of instructor.

444-3 Agricultural Development. Analysis of the economic, social, political, cultural, and institutional factors related to economic growth and development in agricultural sector. Framework

for evaluating outcome of alternative strategies in agricultural production, marketing, and government policies that affect output, income distribution and resource use in agriculture and the related agroindustrial complex. Prerequisite: 204.

450-3 Advanced Farm Management. Application of production economic principles and modern decision-making techniques to farm management problems. The importance of information, sources of agricultural risk and management of risk in farm planning will be integrated. Prerequisite: 350 or equivalent and General Education Mathematics requirement.

451-2 Farm Real Estate Appraisal. Principles and practices of farm real estate appraisal. Application of capitalization, market and cost approaches for estimating market value. Understanding of special valuation methods used for buildings, insurance, assessments, loans and condemnation. Field trips not to exceed \$10. Prerequisite: 350 or consent of instructor.

453-3 Agribusiness Planning Techniques. Application of mathematical programming to agribusiness and farm planning, including enterprise selection, resource allocation, least cost ra-

tion formulation, decision making under risk and uncertainty, transportation and location problems. Emphasis placed on modeling problems and interpretation of results. Prerequisite: 350 or consent of instructor.

460-3 Agricultural Prices. Measurement and interpretation of factors affecting agricultural prices. Construction of index numbers, trend analysis, seasonal and cyclical price movements and the measurement of relationships between price and other variables. Prerequisite: 362 or equivalent.

461-3 Agriculture Business Management. Examination of agribusiness firm management with emphasis on the management and control of financial resources and the interrelationship between the agribusiness firm and human resource management. Other topics in agribusiness will include effective communication in the management process, business ethics and workable credit programs for customers. Prerequisite: 351 and 360 or equivalent.

462-3 Advanced Agricultural Marketing. Advanced treatment of marketing issues from both theoretical and practical decision-making perspectives. Marketing margins, intertemporal and spatial price relationships are reviewed in detail. Historical and current grain and livestock price series are utilized in decision-making exercises. Prerequisite: 362 or equivalent.

500-6 (3,3) Agribusiness Economics Research Methodology. (a) Social science research methodology in agriculture, including defining research problems, hypothesis formation, specification of research design, survey methodology, source of data and development of research proposals. (b) A survey of applied techniques and procedures for developing and evaluating agricultural economic research models with an emphasis on multiple regression and time-series models. Prerequisite: Educational Psychology 506 or equivalent.

551-3 Resource Allocation in the Agribusiness Firm. An examination of resource allocation

in the agribusiness firm. Production decisions, agricultural product price analysis and decision making models are considered. Prerequisite: six hours of agricultural economics or economics or consent of instructor.

552-3 Problems and Policies of the Agricultural Sector. An analytical survey of agricultural policy issues including agricultural price and income stabilization; international trade, capital and credit, the structure of agriculture and the quality of life in rural areas. Prerequisite: six hours of agricultural economics or economics or consent of instructor.

581-1 to 4 Seminar in Agribusiness Economics. Seminar on current research and issues in agribusiness economics on topics such as farm management, farm policy, agricultural marketing, farm finance, agricultural prices and international agriculture.

588-1 to 8 International Graduate Studies. University residential graduate study program abroad. Prior approval by the department is required both for the nature of program and the number of semester hours of credit.

590-1 to 4 Readings. Readings in specialized topics under the direction of an approved graduate faculty member. Graded *S/U* only.

593-1 to 4 Individual Research. Directed research in selected topics under the supervision of an approved graduate faculty member. Graded *S/U* only.

599-1 to 6 Thesis. Work in the research for and presentation of a thesis under the supervision of an approved faculty member. Graded *S/U* only.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Animal Science

E-mail: ansms01@siu.edu

COLLEGE OF AGRICULTURE

Arthur, Robert, Professor, Ph.D., University of Missouri, 1970; 1977. Monogastric nutrition, biochemistry.

Dado, Richard G., Assistant Professor, Ph.D., Michigan State University, 1993; 1994. Dairy production, ruminant nutrition.

Goodman, Bill L., Professor, *Emeritus*, Ph.D., Ohio State University, 1959; 1958.

Hausler, Carl L., Associate Professor, Ph.D., Purdue University, 1970; 1970. Reproductive physiology.

Hinners, Scott W., Professor, Ph.D., *Emeritus*, University of Illinois, 1958; 1951.

Kammlade, W. G., Jr., Associate Professor, *Emeritus*, Ph.D., University of Illinois, 1951; 1954.

King, Sheryl S., Professor, Ph.D., University of California, Davis, 1983; 1983. Reproduction physiology, equine science.

Kroening, Gilbert H., Professor and *Chair*, Ph.D., Cornell University, 1965; 1969. Swine production, monogastric nutrition.

Olson, Howard H., Professor, *Emeritus*, Ph.D., University of Minnesota, 1952; 1954.

Strack, Louis E., Associate Professor, *Emeritus*, D.V.M., University of Illinois, 1961; 1968. Veterinary medicine.

Winters, Todd A., Assistant Professor, Ph.D., University of Wisconsin-Madison, 1992; 1994. Animal biotechnology, reproductive physiology.

Woody, Harold Dee, Associate Professor, Ph.D., Michigan State University, 1978; 1978. Ruminant nutrition, growth.

Young, Anthony W., Professor, Ph.D., University of Kentucky, 1969; 1980. Ruminant nutrition, forages.

The Department of Animal Science, Food and Nutrition offers programs of study leading to the Master of Science degree with a major in animal science. Programs may be designed in the various disciplines of nutrition, reproductive physiology or growth and development with emphasis on beef cattle, dairy cattle, horses, or swine. Supporting courses may be selected in applied science, chemistry, microbiology, physiology, zoology, behavioral science, agriculture, etc.

Admission to programs administered by the Department of Animal Science, Food and Nutrition must be approved by the department. Application and reference forms will be provided upon request from the department. Applicants must have the registrar of each college previously attended send official transcripts directly to the Graduate School.

Requirements

Minimum requirements for the master's degree may be fulfilled by satisfactory completion of 30 semester hours of graduate credit, with a minimum of 15 hours in animal science. A maximum of two animal production related courses (409, 419, 430, 455, 465, 485) may be counted for graduate credit. At least 8 hours of graduate credit must be earned outside the College of Agriculture. Minimal requirements for students entering the master's degree program are: (a) meet animal science undergraduate requirements; (b) minimal GPA of 2.7 ($A = 4.0$); (c) CHEM 340 and 344 or organic chemistry equivalent.

Students who do not meet the undergraduate requirements may correct these deficiencies while an unclassified student or with the consent of the department during graduate study. Students entering the animal science graduate program with a GPA below 2.70 are accepted on a conditional basis and must enroll in 8 hours of structured courses at the 400–500 level during their first semester and make a 3.0 GPA or be dropped from the program.

Each student, whether in the thesis or non-thesis option, will have an advisory committee of at least four members including the departmental chair and at least one other member of the department. Each master's degree candidate must pass a comprehensive oral examination covering all graduate work including the thesis or research paper.

Students interested in animal science at the doctoral level can be admitted to a program of study leading to the Ph.D. degree in physiology. The program, in the Department of Physiology, is adequately flexible to allow students to emphasize such areas as behavioral science, endocrinology, metabolism, microbiology, physiological genetics, or reproductive physiology. For admission requirements and program description the student should consult the physiology section in the *Graduate Catalog*.

Information concerning admission policies, requisites for graduation, and availability of financial assistance for graduate study in animal science may be obtained from the Department of Animal Science, Food and Nutrition, Southern Illinois University at Carbondale, Carbondale, IL 62901-4417.

Courses (ANS)

Field trips are required for certain courses.

409-4 Equine Science. Designed for students interested in the more scientific aspects of equine physiology and management. The class will take a more advanced look at anatomy and physiology of the systems of the equine and consider how they relate to selection, use and management. Lecture and laboratory. Prerequisite: 219 and 331.

415-4 Advanced Animal Nutrition. Advanced principles and practices associated with digestion, absorption and metabolism of nutrients as related to domestic monogastrics, ruminants and horses. Prerequisite: 215 and 315.

416-3 Ruminant Nutrition. Practical knowledge gained of problems associated with digestion, absorption and metabolism of nutrients as related to domestic ruminants, horses and other pseudoruminants. Prerequisite: 215 and 315.

419-4 Stable Management. Designed for the advanced equine science student planning a career in the horse field. Teaches in-depth management techniques on an applied basis. Students will have the opportunity to learn both theory and application of management in one course. One hour

lecture, four hours laboratory. Laboratory fee \$20. Prerequisite: 219, 409 and consent of department.

421-2 International Animal Production. A study of world animal production practices with emphasis on the developing countries. Adaptability of animals to environmental extremes and management practices employed to improve productivity. Prerequisite: junior standing plus Animal Science 121 or one year of biological science.

430-4 Dairy Cattle Management. Application of the principles of breeding, physiology and economics to management of a profitable dairy herd. Breeds of dairy cattle, housing, milking practices and quality milk production. Field trip. Students enrolled will incur field trip expenses of approximately \$25. Prerequisite: 315, 332.

431-4 Reproductive Physiology. Comparative anatomy and physiology of the male and female reproductive system of domestic animals; hormones; reproductive cycles; mating behavior; gestation and parturition; sperm physiology; collection and processing of semen; artificial insemination, pregnancy tests; diseases. Prerequisite: 121 or a course in physiology.

433-4 Introduction to Agricultural Biotechnology. (Same as Plant and Soil Science 433.) This course will cover the basic principles of plant and animal biotechnology using current examples; gene mapping in breeding, transgenic approaches to improve crop plants and transgenic approaches to improve animals will be considered. Technology transfer from laboratory to marketplace will be considered. An understanding of gene mapping, cloning, transfer and expression will be derived. Prerequisite: senior standing or consent of instructor.

434-2 Physiology of Lactation. Anatomy and physiology of milk secretion; endocrine control; milk precursors and synthesis; milk composition; physiology and mechanics of milking, mastitis. Offered only fall semester of odd numbered years. Prerequisite: course in physiology.

435-1 to 4 Agricultural Molecular Biotechnology Seminar. (Same as Plant and Soil Science 435) Molecular biology is rapidly making important contributions to agricultural science through biotechnology. An appreciation of the techniques of molecular biology and their application to plant improvement is important to all in agriculture and biology. The relationships between plant molecular biology and the biotechnology industry will be discussed. Presentations on particular research problems will be made. Graded *S/U*.

455-2 Animal Waste Management. Acquaints the student with the scope and problems involved with animal waste management, current regulations and laws on environmental protection. Principles covering waste management technology and current livestock waste management systems are presented. Field trips will be scheduled. Prerequisite: junior standing.

465-4 Swine Management. Swine production systems and management techniques including breeding and selection, reproduction, nutrition,

herd health and disease prevention, housing and waste management, marketing, production costs and enterprise analysis. Field trip. Prerequisite: 315 and 332 or consent of instructor.

485-4 Beef Cattle Management. Beef cattle production systems and management, breeding and selection, reproduction, nutrition and herd health with emphasis on the most economical and efficient systems. Field trip. Students enrolled will incur field trip expenses of approximately \$5. Prerequisite: 315 and 332 or consent of instructor.

500-3 Research Methods in Agricultural Science. Experimental design and biometry as applied to biological and allied fields. Prerequisite: graduate student.

506-3 Instrumentation Methods in Agricultural Science. Basic methods and techniques of spectrophotometric and chromatographic instrumentation are taught in the lectures with application of instruments carried out in the laboratories. Prerequisite: consent of instructor.

515-3 Energy and Protein Utilization. Energy and protein utilization including digestion, absorption and metabolism as related to domestic animal production. Prerequisite: Chemistry 344 and 345.

516-3 Minerals and Vitamins in Animal Nutrition. Basic and applied principles of mineral and vitamin metabolism. Emphasis on metabolic functions, reaction mechanisms and interrelationships. Prerequisite: Chemistry 344 and 345.

531-1 to 2 (1,1) Topics in Animal Reproduction. Current research topics in reproduction of domestic mammals are discussed in relation to improving production technology. Emphasis is on neural and endocrine control mechanisms that may be modified to increase animal productivity. Prerequisite: 431.

581-1 to 2 (1,1) Seminar. Problems relating to various phases of animal industries. Maximum of one hour per semester.

588-1 to 8 International Graduate Studies. University residential graduate study program abroad. Prior approval by the department is required both for the nature of the program and the number of credit hours.

590-1 to 3 Readings in Animal Science. Reading in specialized fields under direction of approved graduate specialists.

593-1 to 3 Individual Research. Investigation of a problem in animal science under the supervision of an approved graduate specialist.

599-1 to 6 Thesis. Credit is given for a Master's thesis when it is accepted and approved by the thesis committee.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

FOOD AND NUTRITION

E-mail: fnms01@siu.edu

COLLEGE OF AGRICULTURE

Anderson, Sara Long, Assistant Professor, Ph.D., Southern Illinois University at Carbondale, 1991; 1990. Clinical dietetics.
Ashraf, Hea-Ran Lee, Associate Professor, Ph.D., Iowa State University, 1979; 1980. Food science, food technology.
Banz, William J., Assistant Professor, Ph.D., University of Tennessee, 1995; 1995. Human nutrition, nutritional physiology.
Boushey, Carol J., Assistant Professor, Ph.D., University of Washington, 1995; 1995. Nutritional epidemiology, public health nutrition.
Endres, Jeannette M., Professor, Ph.D., St. Louis University, 1972; 1975. Community nutrition, dietetics, life cycle nutrition.

Girard, T.C., Assistant Professor, M.S., University of Wisconsin-Stout, 1992; 1993. Hospitality and tourism.
Harper, Jenny M., Professor, *Emerita*, Ph.D., Cornell University, 1941; 1958.
Konishi, Frank, Professor, *Emeritus*, Ph.D., Cornell University, 1958.
Kroening, Gilbert H., Professor and *Chair*, Ph.D., Cornell University, 1965; 1969. Monogastric nutrition.
Welch, Patricia K., Professor, Ph.D., Southern Illinois University at Carbondale, 1982; 1974. Community nutrition, food service management.

The Department of Animal Science, Food and Nutrition offers a graduate program leading to the Master of Science degree in food and nutrition with a concentration in community nutrition. The curriculum for this concentration fulfills the requirements of the Association of Faculties of Graduate Programs in Public Health Nutrition.

The program is designed to meet the needs of: (a) students who have a B.S. degree in dietetics, home economics, food and nutrition or other health related fields, but are without the knowledge and skills to practice dietetics with a community nutrition concentration and (b) students who are Registered Dietitians, having worked in a hospital setting, but need additional competencies to cope with the demands of the ambulatory health care setting and community nutrition.

In addition to fulfilling the requirements for admission to the Graduate School, to be admitted to the graduate program in food and nutrition, the applicant's course work must provide an appropriate academic base for the community nutrition concentration. Unless otherwise stated, the policies of the University and of the Graduate School shall establish the minimum requirements for retention in and graduation from the program.

Requirements

Minimum requirements for the master's degree are fulfilled by the satisfactory completion of 38-41 semester hours of credit as follows (course-credits): FN 420-3 or AGEM 500-3, FN 574-3, FN 530-3, FN 540-3, FN 580A-3, FN 580B-3, FN 580C-3, FN 581-1, FN 585-3, FN 593-3 or FN 599-6, HED 401-3, HED 483-3 or HED 500-3 or HCM 381-3, EPSY 506-4. Minimum requirements for students entering the master's degree program are: (a) meet American Dietetic Association knowledge requirements for the Didactic Program in Dietetics; (b) GPA of 3.0 (A = 4.0). Students who do not meet the undergraduate requirements may correct these deficiencies while an unclassified student or, with the consent of the department, during graduate study.

Each student, whether in the thesis or research report portion, will have a graduate committee of at least four faculty members, that includes the departmental chair and one faculty member from outside of the department. Each master's degree candidate must pass a comprehensive oral examination conducted by the graduate committee, covering all graduate work including the thesis or research report and the field experience.

Information concerning admission policies, requisites for graduation, and availability of financial assistance for graduate study in food and nutrition may

be obtained from the Department of Animal Science, Food and Nutrition, Southern Illinois University at Carbondale, Carbondale, IL 62901-4417.

Courses (FN)

Food and Nutrition is a program within the Department of Animal Science, Food and Nutrition.

410-3 Nutrition Education. Course provides principles, techniques and evaluation methods necessary to incorporate food and nutrition into the educational curriculum of schools, hospitals, out-patient clinics and health agencies. Principles of interviewing, counseling and education are discussed. Prerequisite: 321.

420-3 Recent Developments in Nutrition. Critical study of current scientific literature in nutrition. Prerequisite: 320 or equivalent.

421-2 Recent Trends in Food. Critical study of current scientific literature in food. Prerequisite: 320 or equivalent.

425-3 Energy and Nutrition Utilization. The interrelationship of cell physiology, metabolism and nutrition as related to energy and nutrient utilization, including host needs and biochemical disorders and diseases requiring specific nutrition therapy or consideration. Prerequisite: 320, Chemistry 140b, Physiology 310.

435-3 Hospitality Marketing Management. Marketing principles and practices from a hospitality management perspective. Develops the use of marketing tools as an integral part of any hospitality and tourism operation. Prerequisite: 202 and Marketing 304.

461-3 Service Organization and Management in the Hospitality Industry. Managerial aspects of the hospitality industry as related to the provision of quality service. Organizational structures, management techniques, decision-making abilities, ethics, leadership and human resource issues are examined. Prerequisite: 435 and Management 304.

470-3 Medical Nutrition Therapy. Physiological and biochemical changes associated with certain diseases and the appropriate nutrition therapy. Prerequisite: 320, Chemistry 140b and Physiology 310.

472-3 Applied Medical Nutrition Therapy. Application of nutrition principles to the management of patients with altered physiological and biochemical states. Off-campus experiences may be required. Prerequisite: 470 or concurrent enrollment and consent of instructor.

473-3 Hotel Administration. An advanced hotel administration course covering contemporary management issues such as conference management, hotel security, strategic planning, and hotel law.

480-3 Community Nutrition. Offers a study of the objectives, implementation strategies, and evaluation methods of nutrition programs in communities' health programs. Integration of nutrition into the health care delivery system at local, state and federal levels is included.

490-3 Nutrition and Growth. The study of human nutrition during each phase of the life cycle, prenatal through geriatric. Students elect at least two phases for in-depth study. A general review of basic nutrition is included. Prerequisite: 320 or equivalent.

530-3 Advanced Nutritional Assessment and Education. Community assessment methods, specifications or particular tools used and how these tools can be applied to particular conditions of concern in community nutrition. The methods of education for individuals and populations using dietary, biochemical, anthropometric and physical assessment data will be taught. Prerequisite: 321 or consent of instructor.

540-3 Nutrition Policy, Programs and Services. The study of policies, programs and services concerned with prevention and treatment of nutrition problems in the population. Prerequisite: 480 and consent of instructor.

574-3 Advanced Medical Nutrition Therapy. In depth study of the application of nutrition to the management of disease states with emphasis on current treatment and complex metabolic abnormalities. Prerequisite: 470 or equivalent.

580-9 (3,3,3) Nutrition Practicum in the Community. Designed to provide practicum experiences in dietetics for students completing the Master's in Food and Nutrition and includes (a) clinical rotation, (b) management rotation, (c) public health nutrition rotation. Prerequisite: 585 and consent of instructor.

581-1 Seminar. An integration of the knowledge gained from the didactic and experiential learning prior to and after the clinical, food service and public health field experiences. Prerequisite: 480 and consent of instructor.

585-3 Advanced Community Nutrition. A presentation and examination of issues and programs in food and nutrition programs. Elements including the organization and management of quality nutrition services for the prevention of disease and promotion of health will be identified and applied to community programs. Prerequisite: 480 or consent of instructor.

590-1 to 3 Reading in Food and Nutrition. Individual readings in food and nutrition under graduate faculty guidance. Prerequisite: consent of instructor.

593-1 to 3 Individual Research. Investigation of a problem in food and nutrition under the supervision of an approved graduate faculty member. Graded *S/U* only.

599-1 to 6 Thesis. Credit is given for a Master's thesis when it is accepted and approved by the thesis committee. Graded *S/U* only.

601-1 Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Anthropology

E-mail: cmcgee@siu.edu

COLLEGE OF LIBERAL ARTS

Adams, Jane H., Associate Professor, Ph.D., University of Illinois-Urbana, 1987; 1987. Sociocultural anthropology, political economy, agricultural systems, history, gender roles; rural US, Latin America.

Benefit, Brenda R., Associate Professor, Ph.D., New York University, 1987; 1990. Physical anthropology, primate paleontology (especially Old World monkeys and apes), functional anatomy, diet and dentition, paleoecology; excavation of Miocene deposits at Maboko Island; Kenya.

Butler, Brian M., Adjunct Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1977; 1977. Archaeology, cultural resource management, prehistoric subsistence and settlement systems; southeastern and midwestern US.

Corruccini, Robert S., Professor, Ph.D., University of California, Berkeley, 1975; 1978. Physical anthropology, paleontology, osteology, multivariate methods, dental anthropology, epidemiology; India, Italy, Caribbean.

Ford, Susan M., Associate Professor, Ph.D., University of Pittsburgh, 1980; 1979. Physical anthropology, primate paleontology and systematics (especially New World monkeys and early anthropoids), evolutionary theory, functional and comparative anatomy; South America.

Gumerman, George J., Professor, *Emeritus*, Ph.D., University of Arizona, 1968; 1973.

Handler, Jerome S., Professor, *Emeritus*, Ph.D., Brandeis University, 1965; 1962.

Hill, Jonathan D., Professor, Ph.D., Indiana University, 1983; 1986. Ethnology, ecology, history, ethnomusicology, structural-semantic analysis; Amazon.

Hofling, C. Andrew, Assistant Professor, Ph.D., Washington University, 1982; 1996. Linguistics; discourse analysis, Maya; Mesoamerica.

Maring, Ester G., Assistant Professor, *Emeritus*, Ph.D., Indiana University, 1969; 1965.

Maring, Joel M., Associate Professor, *Emeritus*, Ph.D., Indiana University, 1967; 1963.

McCall, John, Assistant Professor, Ph.D., Indiana University, 1992; 1995. Sociocultural anthropology, social theory, epistemology, history, ritual studies, medical anthropology, expressive culture; Africa.

Muller, Jon D., Professor, Ph.D., Harvard University, 1967; 1966. Archaeology, art analysis and culture theory; Eastern US, Africa.

Newsome, Lee Ann, *Curator* and Adjunct Assistant Professor, Ph.D., University of Florida, 1993; 1993. Archaeology, paleoethnobotany, origins of agriculture; Eastern U.S., Caribbean, neotropics.

Rands, Robert L., Professor, *Emeritus*, Ph.D., Columbia University, 1952; 1966.

Rice, Don, Professor, Ph.D., Pennsylvania State University, 1976; 1991. Archaeology, ethnohistory, tropical ecology, development of complex societies; Middle America, Andes.

Rice, Prudence M., Professor and *Chair*, Ph.D., Pennsylvania State University, 1976; 1991. Archaeology, ceramics; Mesoamerica; Andes.

Riley, Carroll L., Distinguished Professor, *Emeritus*, Ph.D., University of New Mexico, 1952; 1955.

Shimada, Izumi, Associate Professor, Ph.D., University of Arizona, 1976; 1994. Archaeology, complex societies, technology and craft production, urban and ceremonial centers, experimental archaeology; Andes.

Sturzenhofecker, Gabriele, Assistant Professor, Ph.D., University of Pittsburgh, 1992; 1997. Social anthropology, gender systems, ritual, history and anthropology, urban anthropology, conflict and violence, symbolism; Pacific, contemporary USA, Western Europe.

The Department of Anthropology offers graduate programs leading to the Master of Arts and Doctor of Philosophy degrees. Provided the student has been admitted to the Graduate School and meets its requirements, acceptance and continuation in the graduate program are at the discretion of the Department of Anthropology.

The philosophy of the Department of Anthropology is to produce students with broad backgrounds in the major sub-fields of anthropology and expertise in particular specialty areas. Within this philosophy, and subject to the requirements discussed below, the department offers a flexible program which will serve students with diverse needs and goals.

Admission

The applicant to the anthropology program must send a completed application for admission to graduate study and certified copies of all transcripts directly to the department, and must meet all Graduate School requirements for entry. Applicants whose native language is not English must achieve a TOEFL score of 600 or higher as well as take the Test of Written English (TWE), and the TWE score must be at least 5.0 (on a scale of 1 to 6) in order to gain admittance in the

program. The Graduate Record Exam (GRE) is required for all U.S. applicants. Preference will be given to applicants who achieve the sum of a score of 1100 or higher on verbal and either quantitative or analytical sections of the exam. Although not required to take the GRE prior to admittance, all foreign students are strongly encouraged to take the exam prior to entering the graduate program and are required to take the exam before the end of their first year in the program.

Applicants who wish to be considered for university Graduate School fellowships must have all application materials completed by January 15. Applicants who wish to be considered for admission into the graduate program in the fall semester of the next academic year and who wish to be considered for departmental graduate assistantships must have all application materials completed by March 1. Applications not received or completed prior to March 1 will be considered only in exceptional cases, as determined by the Director of Graduate Studies in consultation with other members of the Graduate Studies Committee.

In addition, the applicant must send a completed departmental application for admission and financial aid form, personal data sheet, statement of academic and professional goals, and arrange for three letters of recommendation to be sent to the Director of Graduate Studies of the Department of Anthropology. All necessary forms will be provided to applicants by the department. No special program of previous work is required. Applicants with academic degrees in fields other than anthropology are encouraged to apply.

A non-refundable application fee of \$20.00 must be submitted with the application. Attach your check or money order, payable to Southern Illinois University, to the top of the application form. Do not send cash. Only checks or money orders payable to United States banks will be accepted.

Master's Degree Program

In addition to the master's degree requirements specified in the Graduate Catalog, the following departmental requirements apply to all M.A. degree candidates:

- (1) Each student must complete five core courses, ANTH 500a, b, c, d, and e, with an average grade of *B* or higher, no more than one *C*, and no grade lower than *C*. It is preferred that these courses be completed during the first year; no more than one core course can be deferred into the second year, and ANTH 500E must be completed during the first Fall semester in the program. At the end of the student's first year of study, the faculty will evaluate each student's performance in the completed core courses along with the rest of the student's record and arrive at a decision on the student's continuation in the program. This decision will take into account the overall evidence of the student's abilities, potentials, and interests.
- (2) Each student must complete 1 or more regular graduate-level courses or seminars in each of 2 subdisciplines of the student's choice (from among archaeological, linguistic, physical, sociocultural anthropology) beyond the core courses.
- (3) A further 9 hours of course work will be assigned by the student's committee after consultation with the student. These 9 hours may include up to 4 hours of graduate credit to meet tool requirements, and may not include more than 3 hours of independent study or thesis. No more than 3 hours of credit in ANTH 501, 590, 597, and 599 (thesis) may be applied toward the Graduate School requirements of 30 hours of graduate course credit and 15 hours of 500-level credit. The department requires 2 additional seminars (500-level course) beyond the 4 core courses and the thesis hours.
- (4) Each student must demonstrate a reading competence in a relevant language foreign to the student.

Students entering the program may petition to have previously taken courses accepted for credit as equivalent to core courses in cases where the equivalence can be documented.

M.A. Degree Committee, Thesis, Research Paper. Each student in the M.A. degree program will consult with the director of graduate studies and relevant faculty members to select a three-person faculty committee, which will assume major responsibility for the student's advisement. At least 2 members of this committee, including the chair, must be from the Department of Anthropology, and the third member may be selected from outside the department. At least the chair should be chosen by the end of the first year, and the entire committee by the end of the third term.

Under the direction of the M.A. degree committee, the student will complete a thesis and register for at least three hours of Anthropology 599 while doing so. A student may submit a published paper, or one accepted for publication in an approved professional journal, instead of a thesis, or may be authorized by the department to substitute a research paper for the thesis. Passing of a comprehensive examination on the student's entire program is a Graduate School requirement. One properly bound copy of the thesis, research paper, or article must be deposited with the department before the degree is granted.

An option is available, at the discretion of the departmental faculty, to allow exceptional M.A. students accelerated entry in the doctoral program at the end of their first year of M.A. study. For these students, the following are sufficient for the M.A. degree in Anthropology:

- (1) completion of 30 hours of coursework, including 21 hours at the 500 level (which can include up to 9 hours of Anthropology 598 - Research); and
- (2) a research paper (normally one prepared for a class in the student's subdiscipline) approved by the student's adviser and the Director of Graduate Studies, and submitted to the Graduate School.

No additional stipulations on the nature of the coursework (beyond the core courses) nor a language requirement are imposed.

The Department of Anthropology may offer direct post-baccalaureate degree entry to the doctoral program under exceptional circumstances, when a student's past work is determined to be of sufficient scope and excellence as to merit equivalence to an M.A. research degree. Students admitted under this option are subject to all existing requirements for the doctoral degree; the admissions/advisory committee for the student may add extra requirements based on the student's background.

Doctor of Philosophy Degree Program

Applicants to the Ph.D. degree program must complete the equivalent of the master's degree and apply directly to the Graduate School for admission as a doctoral student. Three letters in support of the application must be forwarded to the director of graduate studies in the Department of Anthropology. Students must also supply a statement of goals for their programs and subsequent professional careers. The department will offer an accelerated entry option to students who have been admitted at M.A. level and who are judged by the faculty of the department to be prepared to begin research at the doctoral level. Such students must complete at least one term in the M.A. degree program before being admitted at Ph.D. level, and must then meet all retention and exit requirements for the regular doctoral option. The students need not submit the application materials required of regular applicants to the Ph.D. degree program outlined above.

Students are required to demonstrate breadth of competence in the four subdisciplines of Anthropology. Retention beyond the first year will be determined by an evaluation of course work for the first year and the maintenance of a minimum G.P.A. of 3.2. Students will then form a faculty committee in consultation

with the director of graduate studies and relevant members of the faculty. The committee must include at least 5 members of the graduate faculty, at least 3 of whom (including the chair) must be from within the department, and at least 1 from outside: the normal case will be 4 from within and 1 additional.

The requirements for the Ph.D. degree include the following:

- (1) Additional course work in anthropology and other fields within the student's interests. Of the 24 hours of credit required to establish residency, 9 must be in 500-level anthropology courses other than 500a,b,c,d,e, 501, 585, and 597. The Ph.D. committee is expected to help formulate a study program that will usually involve at least one additional academic year of full-time course work beyond the M.A. degree.
- (2) Research tool requirements. These vary and will be determined between the students and the committee, subject to approval of the chair of the department. In all cases a certified reading knowledge of at least one foreign language will be required and at least one other tool. Other possible tools could include, for example, computer science, statistics, a second foreign language, or a combination of these or others.
- (3) Administration by the committee of a special examination with both written and oral components covering topical and geographical specialties (the preliminary or candidacy exam). The student may not take the examination until 2 years of full-time post-baccalaureate study have been completed and SIUC residency attained. The student is encouraged to take this examination by the end of three years of full-time Ph.D. level work. In evaluating the examination, the committee may pass the student, pass with conditions, fail the student but allow retaking of part or all of the examination at a later time or fail the student and recommend dismissal from the program. If a student fails the examination and the committee allows reexamination, it must occur within one year of the first examination and only one retake is allowed.
- (4) Dissertation prospectus approved by student's committee and formally presented to the department.
- (5) Formal experience in teaching.

Ph.D. Candidacy. After completion of the above requirements, the department will recommend a student to the Graduate School for candidacy. The candidate will design dissertation research in consultation with the committee and will undertake the research necessary to acquire the materials for the dissertation. Candidates must register for 24 hours of credit under ANTH 600.

When a final draft of the dissertation has been accepted by the Ph.D. committee, an oral defense of the dissertation and all supporting work will be held in accordance with Graduate School requirements. After a successful dissertation defense and completion of final revisions of the text, the student must submit two copies of the dissertation to the Graduate School in accordance with its guidelines, and a properly bound copy to the Department of Anthropology.

Courses (ANTH)

402-3 People and Culture. Offered primarily for non-anthropology majors. Focuses on the nature of culture, cultural processes, and cultural change with emphasis on social, political, economic, artistic, religious and linguistic behavior of humans as individuals and in social groups.

404-3 Art and Technology in Anthropology. An introduction to the basic ways in which people utilize the natural resources of their habitat to meet various needs, such as food, shelter, transportation and artistic expression. The nature of art, its locus in culture and its integration into technical society will be considered.

410A-3 Applied Anthropology. The practical applications of theoretical social anthropology. Problems of directed culture change are examined from an anthropological perspective as they apply to the work of the educator, social worker, extension agent, administrator and others who are attempting to guide change in the life ways of others in Western culture and the third world. Prerequisite: none. 300d recommended for undergraduates.

410B-3 Educational Anthropology. An examination of the cultural processes of formal and informal education, the use of anthropological

premises in educational program design, bicultural-bilingual education programs, comparative American-non-American systems and the teaching of anthropology. Prerequisite: none. 300d recommended for undergraduates.

410C-3 Economic Anthropology. The study of non-Western economic systems. Prerequisite: none. 300d recommended for undergraduates.

410D-3 Anthropology of Folklore. A comparative study of the role of folklore in various cultures of the world, with emphasis upon nonliterate societies. Analysis of motifs, taletypes, themes and other elements; comparisons between nonliterate and literate groups. Prerequisite: none. 300d recommended for undergraduates.

410E-3 Anthropology of Law. Anthropological thought on imperative norms, morality, social control, conflict resolution and justice in the context of particular societies, preliterate and civilized. Law of selected societies is compared to illustrate important varieties. Prerequisite: none. 300d recommended for undergraduates.

410F-3 Anthropology of Religion. A comparative study of (religious) belief systems, with emphasis upon those of non-literate societies. Examination of basic premises and elements of these belief systems, normally excluded from discussions of "Great Religions". Prerequisite: none. 300d recommended for undergraduates.

410G-3 Psychological Anthropology. Similarities and differences in personality structures cross-culturally including the historical development of this as an anthropological subdiscipline. Prerequisite: none. 300d recommended for undergraduates.

410H-3 Expressive Culture. This course examines forms of expressive culture such as art, music, dance, orature, literature, cinema, drama and festival from an anthropological perspective. A broad range of cultures from different geographical areas are surveyed. Particular attention is given to theoretical analysis of expressive culture in society and the role of the arts in the practice of politics, religion, medicine and other aspects of social life. The goal of the course is to develop an understanding of how the arts are employed to bring social arrangements into being, to maintain relations and, at times, to facilitate transformations of individuals and society at large.

410I-3 Ethnomusicology of Middle East, Europe and the New World. A survey of theory, method, structure, organology and cultural context of the ethnomusicology of Europe and the New World.

410J-3 Kinship and Social Organization. Universal features of non-Western systems of kinship terminology and social organization. Topics include the structure and functioning of kinship systems, lineages, clans, sibs, phratries, moieties and tribal units. Prerequisite: none. 300d recommended for undergraduates.

410K-3 Ecological Anthropology. An examination of the relationship of past and present human populations in the context of their natural and social environments. Prerequisite: 300c and 300d or equivalent.

410L-3 Gender Perspective in Anthropology. This course will explore the patterns of male-female relationships in different cultural settings (Africa, South-East Asia, the Pacific, the Ameri-

cas and Europe). The course will deepen students' awareness of gender related issues in social life and broaden their understanding and appreciation of the cross-cultural variation in male-female relationships. Topical emphasis will vary from year to year. Prerequisite: 300 or consent of instructor.

410M-3 Healing and Culture. This course examines systems of healing and medicine from an anthropological perspective. The theory and practice of medicine in different cultures, including Western biomedicine, are considered. Particular attention is given to the ways in which medical knowledge gains legitimacy in different social contexts and the problems which arise in culturally heterogeneous arenas when different medical paradigms contend for legitimization. Prerequisite: 300d or consent of instructor.

420-3 Mayan Texts. Detailed examination of Mayan texts written in Mayan languages in their cultural contexts. Texts may range from pre-Columbian hieroglyphic texts, colonial Mayan texts to modern texts. Prerequisite: 300b or consent of instructor.

425-3 Cognitive Anthropology. The theory of culture as cognitive organization is explored. Among the topics are: Formal analysis of lexical domains, folk classifications and strategies, the problem of psychological validity, linguistic determinism and relativity, biogenetic and psycholinguistic bases of cognition and the "new ethnography."

430A-3 Archaeology of North America. Detailed study of the early cultures of North America. Emphasis on the evolutionary cultural development of North America. Prerequisite: 300c or 400c or consent of instructor.

430B-3 Archaeology of Meso-America. Detailed study of the early cultures of Meso-America with emphasis on the evolutionary cultural development of Meso-America. Prerequisite: 300c or 400c or consent of instructor.

430E-3 Archaeology of the Eastern Woodlands. Detailed study of the early cultures of the North American Eastern Woodlands with emphasis on the evolutionary development of cultures. Prerequisite: 300c, 302, 400c or 430a or consent of instructor.

430F-3 Archaeology of South America. Survey of the prehistory and ethnohistory of South America, including the peopling of the South American continent, the development of early cultures, the rise and fall of Andean and empires and the impact of Spanish contact and conquest. Prerequisite: 300c or 400c or consent of the instructor.

440A-3 The Fossil Evidence for Human Evolution. An advanced consideration of the fossil evidence for human evolution and evaluation of the various theories regarding the course of human evolution. Prerequisite: 300a or consent of instructor.

440B-3 Race and Human Variation. A consideration of the range, meaning and significance of contemporary human biological variation, including evolutionary and adaptive implications and the utility of the race concept. Prerequisite: 300a or consent of instructor.

440C-3 Context of Human Evolution. This course will provide an ecological, behavioral, geological, geographic and theoretical context from

which to understand the evolutionary history of modern humans. The course is designed to complement Anthropology 440a.

441-6 (3, 3) Laboratory Analysis in Archaeology. (a) Emphasizes methods of analysis in archaeology as part of a larger research design created by the student. May be taken independently or as a follow-up to 496. (b) Emphasizes technical methods of the physical and natural sciences in archaeological analysis, as used in environmental reconstruction, dating and for the investigation of production and exchange.

442-1 to 12 Working with Anthropological Collections. Management, curation and analysis of anthropological collections as part of a research project created by the student. May be taken independently or as a follow-up to 450, 495, 496 or 597.

444-3 Human Genetics and Demography. A course in human genetics with an emphasis on population genetics and demography of modern and ancient human populations. Prerequisite: 300a, 400a or consent of instructor.

450A-3 Museum Studies - Learning in Museums. A detailed study of museum in the context of their use of exhibitions as an educational medium. Covers the evolution of the museum as a learning environment and the application of learning theory and principles in modern museums. Emphasis is placed on practicum experiences involving the design of learning experiences and educational programs in the museum setting.

450B-3 Museum Studies - Methodology and Display. A detailed study of museums in the context of their use of exhibitions as an educational medium. Focus on the history of museum exhibitions and instruction in the fundamentals of educational exhibit design and curatorial research. Emphasis is placed on practicum experiences involving the design of educational exhibits and curatorial research.

455-3 to 27 (3 per topic) Topics in Bioanthropology. Intensive study of one of the major subfields within biological anthropology. Topical areas include: (a) Dental Anthropology. (b) Laboratory Methods. (c) Primate Behavior and Ecology. (d) Quantitative Methods. (e) Biomedical Anthropology. (f) Human Growth, Development and Adaptation. (g) Primate Biology and Evolution. (h) Osteology. (i) Comparative and Functional Primate Anatomy.

460-1 to 12 Individual Study in Anthropology. Guided research on anthropological problems. The academic work may be done on campus or in conjunction with approved off-campus (normally field research) activities.

470-3 to 27 (3 per topic) People and Cultures. A survey of the prehistory, cultural history and contemporary cultures of the area in question. Topical emphasis may vary from course to course and year to year. (a) Africa, (b) Asia, (c) Caribbean, (d) Europe, (e) Latin America, (f) Near East and North Africa, (g) North America, (h) Oceania, (i) Mesoamerica. Prerequisite: a basic acquaintance with geography and history of the areas.

490-3 Field Methods and Analysis in Linguistic Anthropology. Includes theoretical background and a project in the linguistic aspects of

culture. Prerequisite: 300b or consent of instructor.

495-3 to 8 Ethnographic Field School. Apprentice training in the field in ethnographic theory and method. Students will be expected to devote full time to the field school. Prerequisite: consent of instructor.

496-1 to 8 Field School in Archaeology. Apprentice training in the field in archaeological method and theory. Students will be expected to be in full-time residence at the field school headquarters off campus. Prerequisite: consent of instructor.

500A-3 Theory and Method in Biological Anthropology. Current topics in biological evolution and variation, including the theoretical and methodological background to each. Topics will be drawn from the four major areas of physical anthropology: genetics and evolutionary theory, primate studies, human fossil record and human variation. Prerequisite: 300a for undergraduates or consent of instructor.

500B-3 Theory and Method in Linguistic Anthropology. Overview to enable students to identify, describe and understand the theories, methods and goals of linguistic anthropology. Emphasis is placed on the relationships of language to culture and cognition from a variety of perspectives including (1) structuralism; (2) functionalism; (3) cognitive anthropology; and (4) semiotics and discourse analysis. Topics include language origins, descriptive linguistics, language and cognition, synchronic and diachronic variation, language in cultural context, discourse and pragmatics, writing systems and literacy.

500C-3 Theory and Method in Archaeology. Overview of the currents and controversies in anthropological archaeology in their historical and theoretical context. Topics include history of archaeological theory, explanation in archaeology, limitations of the archaeological record and archaeological approaches to the study of cultural variation. Prerequisite: 300c for undergraduates or consent of instructor.

500D-3 Theory and Methods in Sociocultural Anthropology. This course is designed to enable students to identify, define and critically understand the major theories and methods of contemporary sociocultural anthropology. The course is organized into three general parts, reflecting broad areas of theoretical inquiry which have expanded most rapidly in anthropology since 1960: (1) ecological, economic and other materialist approaches; (2) cognitive, symbolic and other interpretive approaches; and (3) recent and ongoing research strategies, including critical and historical approaches. Prerequisite: 300d for undergraduates or consent of instructor.

500E-3 History of Anthropology. The development of anthropological thought in the four subfields of the discipline (sociocultural, physical, linguistics, archaeology). Emphasis is on concepts, ideas and work and major practitioners of the early 19th to the middle of the 20th centuries, on the major trends that have led to specialties found in anthropology today. The present status of anthropology as an academic discipline is briefly explored, and an attempt is made to assess the future of the discipline in terms of intellectual and practical concerns.

501-6 (3,3) Practicum in Educational Anthropology. Provides anthropology students actual classroom experience in a lower division anthropology course. Students will be involved in the teaching of designated courses. The instructor of record will meet with practicum members on a regular basis, critique their lectures, and together with them work out problems and plan future direction of the course. Graded *S/U* only. Prerequisite: Ph.D. level or successful completion of core course requirements at the M.A. level.

510-3 to 6 (3 per topic) Seminar Archaeology of North America. Seminar studying issues concerning the prehistoric and historic inhabitants of North America north of Mexico. From year to year, the precise areal and topical coverage will vary, as will the instructors. Students should consult department about subjects to be offered.

511-2 to 6 (2 to 3 per topic) Seminar in Meso-American Archaeology. From year to year, the areal and topical coverage of this course will vary, as will the instructors. Students should consult the department about subjects to be covered.

513-3 to 9 (3 per topic) Seminar in Archaeology. Seminars in varying topics in archaeology. Students should consult department about subjects to be covered.

514-3 to 6 (3 per topic) Seminar in South American Archaeology. Seminar will focus upon archaeological investigations of specific cultures, regions, time periods or cultural processes in South America. From year to year the areal and topical coverage of the course will vary as may the instructor. Students should consult the department about subjects to be covered. Prerequisite: 430f, 500c, 500d or 500e or consent of instructor.

515A-3 Seminar in Social-Cultural Anthropology. Discussion of anthropological concepts of social structure and related topical themes, based upon extensive reading selected from a large number of sources. Prerequisite: 500e or consent of instructor.

515B-3 Seminar in Social-Cultural Anthropology. Intensive analysis of a limited set of monographs organized around a theoretical problem or set of problems. Prerequisite: 500E or consent of instructor.

516-3 to 9 (3 per topic) Seminar in the Archaeology of Complex Societies. Seminar reviews selective literatures dealing with theoretical and methodological issues in archaeological investigation of pre-industrial, regional complex societies. From year to year the topical coverage of this course will vary as will the instructors. Students should consult the department about subjects to be offered. Prerequisite: 500c, 500d or 500e; or consent of the instructor.

520-2 to 6 (2 to 3 per topic) Seminar in New World Ethnology. From year to year, the areal and topical coverage of this course will vary, as will instructors. Students should consult the department about subjects to be covered.

521-2 to 6 (2 to 3 per topic) Seminar in Ethnology of Latin America. From year to year, the areal and topical coverage of this course will vary, as will the instructors. Students should consult the department about subjects to be covered.

522-2 to 6 (2 to 3 per topic) Seminar in the Anthropology of Oceania. From year to year,

the areal and topical coverage of this course will vary, as will the instructors. Students should consult the department about subjects to be covered.

523-2 to 6 (2 to 3 per topic) Seminar in Anthropology of Africa. From year to year, the areal and topical coverage of this course will vary, as will the instructors. Students should consult the department about subjects to be covered.

530-3 to 9 (3 per topic) Seminar in Paleoanthropology. Topics will be drawn from any dealing with the fossil and/or contextual evidence for human evolution (e.g., *The Place of Neandertals in Human Evolution*; *Taphonomy and Paleoecology*; *Origins of Bipedalism*). From semester to semester, the topical coverage will vary, as will the instructor. Students should consult the department about subjects to be covered. Prerequisite: 440a or 440c or consent of instructor.

532-3 to 9 (3 per topic) Seminar in Human Biological Variation. Topics will be drawn from any of the areas of biological variation among humans (e.g., *Comparative Epidemiology*, *Human Sociobiology*, *Demography and Paleodemography*, or *Multivariate Pattern Recognition*). From semester to semester, the topical coverage will vary, as will the instructor. Students should consult the department about subjects to be covered. Prerequisite: 440b or consent of instructor.

534-3 to 9 (3 per topic) Seminar in Evolutionary Theory. Seminars will be constructed around various theoretical and/or substantive issues in current biological evolutionary theory (e.g., *Issues in Paleobiology*, *Evolution At and Above the Species Level* or *Phylogenetic Systematics*). From semester to semester, the topical coverage will vary, as will the instructor. Students should consult the department about subjects to be covered. Prerequisite: 500a or consent of instructor.

536-3 to 9 (3 per topic) Seminar in Primate Behavior and Ecology. Topics will vary among theoretical and substantive issues in primate behavior and ecology (e.g., *Primate Social Structure*, *Socioecology*, *Diet*, *Locomotion and Foraging Strategies*, or *Reproductive Strategies in Primates*). From semester to semester, the topical coverage will vary, as will the instructor. Students should consult the department about subjects to be covered. Prerequisite: 455c or consent of instructor.

538-3 to 9 (3 per topic) Seminar in Primate Evolution. Topics will vary among substantive (taxonomic), theoretical, and contextual issues in primate evolution (e.g., *Catarrhine Evolution*, *Anthropoid Origins*, *Molecular vs. Fossil Evidence for Hominoid Phylogeny* or *The Role of Body Size and Allometry in Primate Evolution*). From semester to semester, the topical coverage will vary, as will instructor. Prerequisite: 455g or consent of instructor.

540-3 Pidgin and Creole Languages. (Same as Linguistics 507.) Survey of the world's pidgins and creoles, with emphasis on the English-based Atlantic creoles. Comparison of creolization with first and second language acquisition, and with the origin and evolutionary development of human language. Prerequisite: one previous course in linguistics or consent of instructor.

545-2 to 6 (2 to 3 per topic) Seminar in Anthropological Linguistics. From year to year,

the areal and topical coverage of this course will vary, as will the instructors. Students should consult the department about subjects to be covered.

560-2 to 6 (2 to 3 per topic) Seminar in Comparative Social Organization. From year to year, the areal and topical coverage of this course will vary, as will the instructors. Students should consult the department about subjects to be covered.

562-2 to 6 (2 to 3 per topic) Seminar in the Anthropology of Contemporary Peoples. From year to year, the areal and topical coverage of this course will vary, as will the instructor. Students should consult the department about subjects to be covered.

565-2 to 6 (2 to 3 per topic) Seminar in Culture Change and Development. From year to year, the areal and topical coverage of this course will vary, as will the instructor. Students should consult the department about subjects to be covered.

567-2 to 6 (2 to 3 per topic) Seminar in Anthropological Theory and Method. From year to year, the areal and topical coverage of this course will vary, as will the instructors. Students should consult the department about subjects to be covered.

568-3 to 12 (3 per topic) Seminar in Analytical Methods in Archaeology. Seminar in definition, measurement and description of data in relation to archaeological research problems. From year to year, the topical coverage of this course will vary as will the instructors. Students should consult the department about subjects to be offered. Prerequisite: permission of instructor.

576-2 to 6 (2 to 3 per topic) Seminar in Anthropological Research Design. Supervised training in the preparation of anthropological research designs. Requirements will include completed research proposals involving the relation of data to theory and results in the general sub-areas of archaeological, physical, social and linguistic anthropology. Coverage will vary. Students should consult the department.

581-2 to 6 (2 to 3 per topic) Seminar in Anthropology. From year to year, the areal and topical coverage of this course will vary, as will the instructor. Students should consult the department about subjects to be covered.

585-1 to 12 (1 to 3 per semester) Readings in Anthropology. Guided readings to cover special topics and fill gaps in the student's specialized anthropological background, to be arranged with department.

590-1 to 12 Internship. This provides a supervised experience in a professional setting, generally entailing supervisory and/or administrative duties. Prerequisite: Written approval from department.

595-3 Field Methods in Ethnology. Anthropological methods of inquiry and documentation of cultures and habitat together with appropriate instruction in the technique of field work such as photography and sound recording.

597-1 to 12 Fieldwork in Anthropology. To be arranged with department. Graded *S/U* only.

598-1 to 9 Research. This course is restricted to students to be accelerated from the M.A. to the Ph.D. program (at the discretion of the faculty). Its purpose is to allow the student, under the guidance of his/her major advisor, to complete the research paper and other requirements of an M.A. degree. Graded *S/U* only. Prerequisite: Consent of department and departmental offer of accelerated entry to Ph.D. program in Anthropology.

599-1 to 6 Thesis.

600-1 to 32 (1 to 12 per semester) Dissertation.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Applied Linguistics

(See Linguistics for program description.)

Art

E-mail: vlbrooks@siu.edu

COLLEGE OF LIBERAL ARTS

Abrahamson, Roy E., Associate Professor, *Emeritus*, Ed.D., Columbia University, 1965; 1965.

Addington, Aldon M., Associate Professor, M.F.A., Cranbrook Academy of Art, 1966; 1967. Sculpture.

Archer, Richard, Assistant Professor, M.S., Governor's State University, 1979; 1968. Design.

Bernstein, Lawrence A., Associate Professor, *Emeritus*, M.F.A., Cranbrook Academy of Art, 1953; 1962.

Boysen, Bill H., Professor, M.F.A., University of Wisconsin, 1966; 1966. Ceramics, glassblowing.

Briggs, Larry S., Associate Professor, B.F.A., University of Oklahoma, 1956; 1985. Visual communications.

Busch, Larry, Associate Professor, M.S., Southern Illinois University at Carbondale, 1970; 1970. Design.

Deller, Harris, Professor, M.F.A., Cranbrook Academy of Art, 1973; 1975. Ceramics.

Feldman, Joel B., Professor, M.F.A., Indiana University, 1967; 1973. Printmaking, lithography.

Fink, Herbert L., Distinguished Professor, *Emeritus*, M.F.A., Yale University, 1958; 1961.

Greenfield, Sylvia R., Professor, *Emerita*, M.F.A., University of Colorado, 1967; 1968.

Jackson, Jed, Associate Professor, M.F.A., Cornell University, 1980; 1990. Drawing and painting.

Kington, L. Brent, Professor, *Emeritus*, M.F.A., Cranbrook Academy of Art, 1961; 1961.

Lintault, M. Joan, Professor, M.F.A., Southern Illinois University at Carbondale, 1962; 1973. Fibers and weaving.

Mavigliano, George J., Associate Professor, M.A., Northern Illinois University, 1967; 1970. American art and architecture.

Mawdsley, Richard W., Professor, M.F.A., University of Kansas, 1969; 1978. Metalsmithing.

Monteith, Jerry, Associate Professor, M.F.A., Cranbrook Academy of Art, 1978; 1990. Sculpture.

Onken, Michael O., Associate Professor, M.A., Northern Illinois University, 1966; 1968. Drawing and painting.

Palmer, Erin L., Assistant Professor, M.F.A., Yale School of Art, 1993; 1993. Painting and drawing.

Paulson, Robert L., Professor and *Director*, M.F.A., University of Wisconsin, 1967; 1967. Drawing and painting.

Shay, Edward H., Professor, M.F.A., University of Illinois, 1971; 1978. Drawing, painting, and printmaking.

Sullivan, James E., Associate Professor, M.A., University of California, Los Angeles, 1965; 1969. 19th century and modern art and interdisciplinary studies.

Sullivan, Milton F., Professor, *Emeritus*, M.A., Columbia University, 1951; 1952.

Walsh, Thomas J., Professor, M.F.A., University of Michigan, 1962; 1967. Sculpture and foundry.

Youngblood, Michael, Associate Professor, *Emeritus*, Ph.D., University of Oregon, 1975; 1979.

Zivkovich, Kay M. Pick, Assistant Professor, M.F.A., Southern Illinois University at Carbondale, 1973; 1989. Visual communications.

In all of its graduate studio programs, the School of Art and Design strives to maintain a vital, creative ambiance in which emerging artists with strong motivation may develop, through intensive studio practice and appropriate scholarly support, a clear, mature, and professional focus to their creative life. The core of any program is the in-depth studio practice of individual studio disciplines and frequent, sustained contact with working professional faculty and fellow students. This work is supported and extended through formal studio course work, studies in the history of art, and through access to the many resources and opportunities apparent in a large multi-purpose university.

M.F.A. Degree Program Description

The School of Art and Design offers graduate studies leading to the Master of Fine Arts degree with a major in art and offers studies supporting a teaching specialty in art for the Master of Science in Education degree with a major in secondary education. The student is expected to select an area of emphasis (studio or art education), and a program will be planned in consultation with the major professor in that area.

Admission

An undergraduate degree in art or art education, or the equivalent in course work or experience if the undergraduate degree is in another discipline, is required for admission into the Master of Fine Arts degree program. The student must also submit transcripts of all previous undergraduate work, present slides or a portfolio of creative work, and may submit letters of recommendation.

In most cases an undergraduate degree in art education is required for admission into the program constituting a teaching specialty in art for the Master of Science in Education degree majoring in secondary education. Any exception to these requirements must be approved by the faculty in the studio or art education fields and by the director of the School of Art and Design.

A non-refundable application fee of \$20.00 must be submitted with the application. Attach your check or money order, payable to Southern Illinois University, to the top of the application form. Do not send cash. Only checks or money orders payable to United States banks will be accepted.

M.F.A. Degree

A minimum of 60 semester credit hours is required for the Master of Fine Arts degree with a major in art. All hours that are to count toward graduation must have the approval of the student's major adviser in the studio area of emphasis. Students may emphasize the following areas in studio: drawing, painting, printmaking, sculpture/foundry, ceramics/glass, metalsmithing/blacksmithing, and fibers/weaving. The length of time required to complete a 60 semester-hour program is usually 5–6 semesters or 3 academic years. Most graduate students are in residence for at least 4 semesters. Programs of residency must have the approval of the student's major adviser. Required hours are distributed as follows: 26 hours in the primary studio emphasis, 12 hours in art history or related subjects, 6 hours in thesis or terminal project work, and 16 hours of elective study of which 9 hours must be in studio disciplines. The remaining hours may be elected from any area within the School of Art and Design or in the University at large.

In addition to the completion of course work, all candidates for the M.F.A. degree must, during the last semester of academic work, present a graduate exhibition, present a terminal project or a written thesis, and pass an oral examination. The terminal project is a creative activity presented in lieu of the written thesis, and in practice, the graduate exhibition is considered to satisfy the terminal project requirement.

Graduate education in the studio areas of emphasis is expensive, and because of the individual nature of creative work, it is virtually impossible to predict the exact cost for each student. The School of Art and Design provides the faculty, and the studio and shop facilities that are necessary to the programs offered, but all other costs, especially materials, that are considered necessary to the successful completion of a graduate program are borne by the student.

Art as a Teaching Specialty

The Master of Science in Education degree with a major in secondary education with a teaching emphasis in art requires a minimum of 30 semester hours of graduate credit. Two art education program options are available: (1) the research option for those interested in research, supervision, or eventual doctoral studies, and (2) the teacher-studio option for improving teaching and studio skills.

The research option requires 13 hours in education, 11 hours in art education, 3 hours of thesis (or research paper) with the remaining hours for art electives. The teacher-studio option requires 13 hours in education, 6 hours in art education, 3 hours for thesis (or research paper) with the remaining hours for art electives. All hours that are counted toward graduation and election of either a thesis project or a research paper must have the approval of the art education graduate adviser.

Courses (AD)

Art studio courses (400–499, 500–598) are directed toward individual research in the student's major field. Emphasis is placed upon the history, materials, processes and ideas that form the content and experience of the major field.

Courses in this department may require the purchase of supplemental materials. Permission of the major adviser in each studio is required for enrollment in studio courses.

400D-3 to 15 Advanced Drawing I. Independent study in drawing. Studio fee: \$5. Incidental expenses may exceed \$100 for each section. Prerequisite: consent of major adviser.

401D-3 to 15 Advanced Painting I. Independent study in painting. Studio fee: \$5. Incidental

expenses may exceed \$100. Prerequisite: consent of major adviser.

402D-3 to 15 Advanced Printmaking I. Independent study in printmaking. Studio fee: \$10 per credit hour. Incidental expenses may exceed \$50. Prerequisite: consent of major adviser.

403D-3 to 15 Advanced Sculpture I. Independent study in sculpture. Studio fee: contingent upon type of materials used by student. Incidental expenses may exceed \$75. Prerequisite: consent of major adviser.

404D-3 to 15 Advanced Drawing I. Independent study in ceramics. Studio fee: \$27 per credit hour enrolled. Incidental expenses may exceed \$20. Prerequisite: consent of major adviser.

405D-3 to 15 Advanced Metalsmithing I. Independent study in metalsmithing. Studio fee: \$10 per credit hour enrolled. Incidental expenses may exceed \$75. Prerequisite: consent of major adviser.

406D-3 to 15 Advanced Fibers I. Independent study in fibers. Studio fee: \$17 per credit hour enrolled. Incidental expenses may exceed \$75. Prerequisite: consent of major adviser.

407-3 Ancient Art. Ancient art of the Mediterranean area from the Egyptians to the end of the Roman Empire. A survey of the major cultures, with emphasis upon visual analysis, media and techniques, function and iconography. Field trip required. Documented research paper on an aspect of ancient art required for graduate credit. Prerequisite: 207a or consent of instructor.

414A-3 Glass I. Beginning course that introduces the student to the forming processes and techniques associated with the blowing of molten glass. This course provides the basic ground work for the development of skills that result in the ability to fashion principally vessel oriented forms on the blowpipe. The student becomes familiar with the working characteristics of hot glass and understands the principles required to control form. Students become aware of acceptable studio behavior and the interdependence of studio equipment and operational systems. Prerequisite: C or better in 314 or consent of instructor.

414B-3 to 18 Advanced Glass. Advanced glass is intended to direct the students attention to issues beyond that of basic studio techniques explored in the introduction to beginning blowing (Art and Design 414a). A body of technical and practical information instrumental in helping the student realize future goals and plans, both academic and professional will be investigated through: seminar topics, design projects and ideas, individual student presentations, individual and group critiques and selected readings. Prerequisite: for undergraduates: C or better 414a; for graduates: consent of major adviser.

415-4 A Creative Look at Reclamation Possibilities for Massively Disturbed Land. Presents the possibility that massively disturbed areas can be aesthetic resources if potential inherent in these sites can be recognized and addressed. Seminar/lecture/studio format with selected lectures given by invited speakers. Discussions include recognition of massive land disturbance; reclamation as a concept; environmental art and design; the questions a potential developer or designer of disturbed land should ask and where they might look for expert advice; and group critiques on student studio projects. Studio projects will involve the visualization in two- and three-dimension formats of plans for the reclamation of the students' chosen site with accompanying documentation.

417-3 Medieval Art. Medieval art from the Fourth to the Fifteenth Century in Western Europe. Examination of selected art objects in terms of media and techniques, iconography, function and cultural milieu. Field trip required. Documented research paper on an aspect of medieval art required for graduate credit. Prerequisite: 207a or consent of the instructor.

427-3 Renaissance Art. An examination of various topics appropriate to a study of Renaissance art, both Northern and Italian, during the Fifteenth and Sixteenth Centuries in Europe. The emphasis is on a range of art history problems and methods of approach. Field trip required. Prerequisite: 207a or consent of instructor.

437-3 Baroque and Rococo Art. An examination of various topics appropriate to a study of Baroque and Rococo art in Western Europe. Emphasis upon a range of art historical problems and methods of approach. Field trip required. Prerequisite: 207a or b or consent of instructor.

447-3 Introduction to Museology. A survey of museum and gallery techniques (emphasis upon practical exhibit development) which will involve answering questions concerning contractual agreements, taxes, insurance, packing, shipping, exhibit design and installation, record systems, general handling, public relations and sale of art works directed toward problems encountered by the artist outside the privacy of the studio. Prerequisite: art major or consent of instructor.

448-3 Art of Tribal Cultures. Covers a broad range of arts of Africa, Native North America, Pre-Columbian America and Oceania; primarily sculpture, textiles, masking and performance, body decoration and textiles, architecture and ceramics of small-scale village societies.

457-3 Women in the Visual Arts. (Same as Women's Studies 427.) Consists of a survey of women's contributions and participation in the visual arts from the middle ages through the Twentieth Century. Through lecture, discussion and research, painting, sculpture, architecture, crafts, film, photography and other forms of visual art will be covered. Screening fee: \$10.

458-3 African Arts. Covers a broad range of the arts primarily of west and central Africa, as well as north, south, and east Africa: includes sculpture, masking and performance, body decoration and textiles, architecture. Shows how arts are used in the daily life of traditional village societies in these areas.

467-3 Critical Issues in Contemporary Art. An examination of the style and meaning of contemporary art in relation to the current political, social and cultural issues. Will include visual arts, architecture, and communications media. Prerequisite: 207a,b or consent of instructor.

468-3 Pre-Columbian Art. Covers architecture, textiles, pottery, metal and 2-D arts of Meso-, Central and South America during the Pre-Columbian era. Also includes hieroglyphic and calendrical systems and some Post-Columbian era arts as well.

477-3 American Art of the Thirties. A socio-political and artistic study of American art during the decade of the Great Depression. Course material will be divided in three parts: (1) a survey of art trends during the Thirties concentrating on traditional art forms such as painting, sculpture

and architecture; (2) an investigation into government-subsized art programs; and (3) recent governmental and corporate patronage of the arts through such programs as the National Endowment for the Arts. Prerequisite: 207a,b or consent of instructor.

478-3 Topics in American Art. An in-depth examination and discussion of the social, economic, political and cultural changes in American art focusing on such topics as the third millennium, outsider art, folk traditions and utopian communities, law and the artist, gender, ethnic diversity, art and technology and other current issues. Prerequisite: 207a and b.

488-3 American Folk Art. Through the viewing of a wide variety of examples of folk and outsider art, this course will explore the creative urge and what behavioral motives; such as, personal, communal, religious, functional, inspires these artists. Prerequisite: 207b or consent of instructor.

497-3 to 6 (3 per topic) Problems in Art History. A close examination of selected categories of works of art from various periods, media and cultures as illustrative of particular art historical problems. Topics will vary and include (a) Portraiture. (b) Landscape and still life. (c) Narrative. (d) Other selected topics. Sections a through c may be taken only once each, section d may be repeated as topics vary. Art historical perspectives to include formal analysis, iconography, art theory, social history, connoisseurship. Prerequisite: 300-level art history course or consent of instructor.

499-1 to 21 Individual Problems. Art studio course directed toward individual research in the student's major field. Emphasis is placed upon the history, materials, processes and ideas that form the content and experience of the student's major field. Designed to adapt to students' individual needs in problem research. Prerequisite: senior standing in the School of Art and Design, a 3.0 average, and consent of instructor.

500-3 to 21 Advanced Drawing II. A studio directed toward individual research in the student's major field. Emphasis is placed upon the historical materials, processes and ideas that form the content and experience of the student's major field. Prerequisite: consent of major adviser.

501-3 to 21 Advanced Painting II. Art studio course directed toward individual research in the student's major field. Emphasis is placed upon the history, materials, processes and ideas that form the content and experience of the student's major field. Prerequisite: consent of major adviser.

502-3 to 21 Advanced Printmaking II. Advanced studio course in printmaking directed toward individual research in the student's choice of print media. Emphasis is on the processes which lead to the formation of personal content. Studio fee: \$13 per credit hour enrolled. Prerequisite: graduate status and consent of instructor.

503-3 to 21 Advanced Sculpture II. Advanced studio course directed toward individual research in the student's major field. Emphasis is placed upon the history, materials, processes and ideas to form content in the student's medium. Incidental expenses may exceed \$100. Prerequisite: consent of major adviser.

504-3 to 21 Advanced Ceramics II. Art studio course directed toward individual research in the student's major field. Coursework is designed to assist the student's discovery of ceramic form and content as applied to personal artistic expression. Emphasis upon the development of creative studio research techniques and seminar-type experiences exploring historical and contemporary issues as they relate to ceramic art. Studio fee: \$43 per credit hour enrolled. Incidental expenses may exceed \$50. Prerequisite: consent of major adviser.

505-3 to 21 Advanced Metalsmithing II. Art studio course directed toward individual research in the student's major field. Emphasis is placed upon the history, materials, processes and ideas that form the content and experience of the student's major field. Studio fee: \$10 per credit hour enrolled. Prerequisite: consent of major adviser.

506-3 to 21 Advanced Fibers II. Art studio course directed toward individual research in the student's major field. Coursework is designed to assist the student's discovery of fibers and content as applied to personal artistic expression. Emphasis upon development of creative studio research techniques and seminar-type experience exploring historical and contemporary issues as they relate to fibers. Studio fee: \$17 per credit hour enrolled. Prerequisite: consent of major adviser.

507-3 to 6 (3,3) Readings in Art History. Individual assistance and investigation to discover new meaning and involvement in graduate studio work through the literature of art.

508-2 to 9 (2 to 3, 2 to 3, 2 to 3) Research in Art Education. Each student demonstrates via class presentations, a term paper, surveys of research reports and formulations of research designs, an understanding of advanced art education research procedures, analyses and implications; new process and product research techniques; and research in artistic creativity, perception, and the evolution of art images. Prerequisite: consent of instructor.

514-3 to 21 Glass II. An advanced glass course intended to increase the student's knowledge of the potential of glass as a medium of creative expression and to refine studio skills associated with the material. Coursework will include the investigation of historical and contemporary solutions to aesthetic problems related to the medium. Studio fee \$30 per credit hour enrolled. Prerequisite: consent of major adviser or consent of instructor.

517-3 to 6 (3,3) Concepts in Art History. Group seminar to discuss and present aspects of the history of art in relation to both traditional and contemporary artistic concerns.

518-2 to 9 (2 to 3, 2 to 3, 2 to 3) Seminar in Art Education. Each student shows evidence, via class presentation, a term paper and evaluations of individual and group projects, an understanding of important literature; the latest developments and trends in philosophical, psychological and sociological concepts in art education and methods for developing rationale for art curriculum and instruction programs. Prerequisite: consent of instructor.

599-2 to 6 Thesis. Art studio course directed toward individual research in the student's major

field. Emphasis is placed upon the history, materials, processes and ideas that form the content and experience of the student's major field.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis or

research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Behavior Analysis and Therapy

(See Rehabilitation Institute for program description.)

Biological Sciences

E-mail: biosciences@cos.siu.edu

COLLEGE OF SCIENCE

The biological sciences program provides broad interdisciplinary graduate training in biology leading to the Master of Science degree. This interdisciplinary program utilizes the faculty, facilities and courses of the Departments of Plant Biology, Microbiology, Physiology and Zoology. The program is designed for those students who desire a broad-based curriculum rather than an in-depth concentration in only one of the biological sciences.

Requirements for Admission

All applicants must submit an application to the biological sciences program. Applicants must meet the minimal requirements of the Graduate School before being considered for admission to Biological Sciences. A completed application includes the program application form, three letters of recommendation, transcripts of all previous college credit, and scores from the general aptitude portion of the Graduate Record Examination (GRE).

Prerequisites for graduate training in the biological sciences program include a bachelor's degree with the following academic background.

1. 37 semester hours of undergraduate courses distributed among any three of the biological science areas (plant biology, microbiology, physiology and zoology).
2. Organic chemistry with laboratory.
3. Physics.
4. Statistics.

(NOTE: Applicants deficient in these background areas may be admitted, but any deficiency must be successfully completed before the third semester of registration in the program.) Application forms are available from: Director, Biological Sciences Program, Life Science II, Rm. 354e, SIUC, Carbondale, IL 62901-6505.

Advisement

After admission to the program, a student must consult the director of the biological sciences program for counsel and assistance prior to registration.

No later than the end of the first semester of registration in the program, the student must arrange with a faculty member of one of the four biological science departments to serve as the research adviser.

Following selection and approval of the research adviser, a research and advisory committee is to be recommended to the director of the biological sciences program for approval by the dean of the Graduate School. The research and advisory committee shall consist of a minimum of three members, each representing a different biological science department, with the research adviser serving

as chair. The director of the biological sciences program serves as an *ex-officio* member of all committees.

A program of course work must be approved by the research and advisory committee and filed with the director no later than the eighth week of the second semester of registration in the program. Any deviation from the course work program during the student's tenure must be approved by the research and advisory committee and filed with the director. The research plan for the thesis or research paper must be approved by the research and advisory committee and filed with the director no later than the end of the second semester of registration.

Non-Thesis Option

A total of 40 semester hours of 400- or 500-level courses is required with the following provisions:

1. A minimum of 26 semester hours of formal graded courses in the biological sciences required with no less than eight semester hours including one 400- or 500-level laboratory course in each of three of the biological sciences departments.
2. At least 15 semester hours of the total required must be at the 500 level.
3. At least one semester of seminar in each of three of the biological science departments must be attended for credit.
4. An overall 3.0 grade point average ($A = 4.0$) must be maintained with no course in which the grade is less than a *C* counting toward the degree requirements.
5. A research paper is required demonstrating the ability to collect and analyze data and to report interpreted results in a scientific manner. A library research problem is acceptable, but must include an original contribution of analysis and interpretation. No less than three nor more than six semester hours of "Research" may be counted for credit in meeting requirements. (*Only those courses listed as "Individual Research", Introduction to Research", etc. may be taken for credit. "Thesis Research" may not be used for this requirement.*)
6. A final oral examination is required, consisting of two parts:
 - a. a public presentation of the research paper and
 - b. a closed session of inquiry by the student's Research and Advisory Committee.

Thesis Option

A total of 30 semester hours of 400- or 500-level courses is required with the following provisions:

1. A minimum of 21 semester hours of formal graded courses in the biological sciences is required with no less than six semester hours coming from each of three of the biological science departments.
2. A least 15 semester hours of the total required must be at the 500 level.
3. At least one semester of seminar in two of the four biological science departments must be attended for credit.
4. An overall 3.0 grade point average ($A = 4.0$) must be maintained with no course in which the grade is less than a *C* counting toward the degree requirements.
5. A thesis embodying original research is required and may be counted for not less than three nor more than six semester hours of credit.
6. A final oral examination is required consisting of two parts:
 - a. A public presentation of the thesis research and
 - b. a closed session of inquiry by the student's research and advisory committee.

Business Administration

M.B.A. e-mail: mbagp@siu.edu

DBA e-mail: dbadm@siu.edu

COLLEGE OF BUSINESS AND ADMINISTRATION

The graduate faculty, consisting of members of the School of Accountancy and the Departments of Finance, Management, and Marketing, offers graduate work leading to the Master of Business Administration degree, the Master of Accountancy degree, and the Doctor of Business Administration degree.

Graduate Faculty in Accountancy

See under the major heading for the program in Accountancy

Graduate Faculty in Finance

Cornett, Marcia M., Professor, Ph.D., Indiana University, 1983; 1990. Corporate finance and financial institutions and markets.

Dauids, Lewis E., Professor, *Emeritus*, Ph.D., New York University, 1949; 1978.

Davidson, Wallace N., III, Professor, Ph.D., Ohio State University, 1982; 1989. Corporate finance.

Elsaid, Hussein H., Professor and *Chair*, Ph.D., University of Illinois, 1968; 1967. International finance and financial management.

Mathur, Iqbal, Professor, Ph.D., University of Cincinnati, 1974; 1977. Financial management and international finance.

Musumeci, James, Assistant Professor, Ph.D., University of Texas at Austin, 1987; 1993. Investments and corporate finance.

Peterson, Mark A., Assistant Professor, Ph.D., Pennsylvania State University, 1996; Johns Hopkins University, 1990; 1987. Investment/Corporate Finance

Szakmary, Andrew C., Assistant Professor, Ph.D., University of New Orleans, 1989; 1990. International finance, investments.

Tyler, R. Stanley, Associate Professor, *Emeritus*, J.D., University of Illinois, 1952; 1970.

Vaughn, Donald E., Professor, *Emeritus*, Ph.D., University of Texas, 1961; 1970.

Waters, Gola E., Professor, J.D., University of Iowa, 1957; Ph.D., Southern Illinois University at Carbondale, 1970; 1965. Business law and labor law.

Graduate Faculty in Management

Bateman, David N., Professor, *Emeritus*, Ph.D., Southern Illinois University at Carbondale, 1970; 1965.

Bedwell, R. Ralph, Associate Professor, *Emeritus*, Ph.D., Southern Illinois University at Carbondale, 1969; 1954.

Fohr, John M., Professor, *Emeritus*, Ed.D., Michigan State University, 1959; 1962.

Larson, Lars L., Associate Professor, *Emeritus*, Ph.D., University of Illinois, 1971; 1971.

McKinley, William, Associate Professor, Ph.D., Columbia University, 1983; 1990. Organization theory, organizational behavior, strategic management.

Melcher, Arlyn J., Professor, Ph.D., University of Chicago, 1964; 1989. Organization theory, strategic management, research methodology.

Michalisin, Michael, Assistant Professor, Ph.D., Kent State University, 1996; 1997. Strategic management, organization theory, international business.

Nelson, Reed, Associate Professor, Ph.D., Cornell University, 1983; 1991. Organizational behavior and theory.

Ramaprasad, Arkalgud, Professor, Ph.D., University of Pittsburgh, 1980; 1980. Strategic management, management information systems.

Saunders, Carol, Professor and *Chair*, Ph.D., University of Houston, 1979; 1997. Management information systems, organization theory.

Scott, John W., Professor, *Emeritus*, Ph.D., University of Chicago, 1930; 1947.

Sekaran, Uma, Professor, *Emeritus*, Ph.D., U.C.L.A., 1977; 1977.

Stubbart, Charles, Associate Professor, Ph.D., University of Pittsburgh, 1983; 1991. Strategic management, international business, entrepreneurship.

Tadisina, Suresh K., Associate Professor, Ph.D., University of Cincinnati, 1987; 1986. Operations management and management sciences.

Vicars, William M., Associate Professor, *Emeritus*, Ph.D., Southern Illinois University at Carbondale, 1969; 1961.

White, Gregory P., Associate Professor, Ph.D., University of Cincinnati, 1976; 1978. Production management and management sciences.

Wilson, Harold K., Associate Professor, *Emeritus*, D.B.A., University of Colorado, 1972; 1972.

Graduate Faculty in Marketing

Adams, Kendall A., Professor, *Emeritus*, Ph.D., Michigan State University, 1962; 1965.

Andersen, R. Clifton, Professor, *Emeritus*, D.B.A., Indiana University, 1960; 1967.

Anderson, Carol H., Associate Professor, *Emerita*, Ph.D., Texas A&M University, 1980; 1979.

Balasubramanian, Siva, Professor, Ph.D., State University of New York at Buffalo, 1986; 1992. Advertising and promotional management, consumer behavior, new product diffusion models, and measurement issues in marketing.

Bruner II, Gordon C., Associate Professor, Ph.D., University of North Texas, 1983; 1984. Consumer behavior, promotion management, and scale compilation.

Dommermuth, William P., Professor, *Emeritus*, Ph.D., Northwestern University, 1964; 1968.

Fraedrich, John P., Associate Professor, Ph.D., Texas A&M University, 1988; 1987. Ethics, international marketing, and industrial sales.

Grant, John A., Assistant Professor, Ph.D., Arizona State University, 1993; 1993.

Hindersman, Charles H., Professor, *Emeritus*, D.B.A., Indiana University, 1959; 1960.

King, Maryon F., Associate Professor, Ph.D., Indiana University, 1989; 1988. Marketing management, consumer behavior, promotion management.

Lambert, Zarrel V., Professor and *Chair*, Ph.D., Pennsylvania State University, 1966; 1995. Research methodology and statistics.

Mathur, Lynette Knowles, Associate Professor, Ph.D., The Ohio State University, 1990; 1988. International business/marketing, marketing channels, and physical distribution.

Moore, James R., Assistant Professor, *Emeritus*, Ph.D., University of Illinois, 1972; 1969.

Perry, Donald L., Associate Professor, Ph.D., University of Illinois, 1966; 1964. Social marketing, management, and sales management.

Summey, John H., Associate Professor, Ph.D., Arizona State University, 1974; 1978. Marketing management, marketing research, product strategy.

To support the graduate programs, the College of Business and Administration houses a computer laboratory equipped with microcomputers and terminals for mainframe access. The laboratory is staffed with graduate assistants and has current releases of many business software applications. In addition, the University maintains two additional laboratories which also contain microcomputers, terminals for mainframe access, and up-to-date software.

Master of Business Administration

<http://www.siu.edu/~mba>

The M.B.A. program is oriented toward preparing students for managerial positions in business and government. The program emphasizes the ability to comprehend internal and external social, legal, political, and economic forces as they affect the decision-making process within a business organization. The specific learning objectives of the program include the following:

- a. Students must understand basic concepts and terminology in key functional areas of business (i.e., accounting, finance, management, and marketing).
- b. Students must demonstrate the ability to diagnose, analyze, and provide solutions to complex business situations.
- c. Students must possess key skills (written and oral communication skills, computer skills, team-work skills, and leadership skills) required for successful managerial careers.
- d. Students must be able to integrate the functional areas of business such that decision-making serves the interests of the entire business.

The program has been structured with flexibility so as to serve both holders of baccalaureate degrees in business administration and those who hold degrees in other disciplines. The M.B.A. program is accredited by the American Assembly of Collegiate Schools of Business (AACSB).

M.B.A. Core

BA 510 Managerial Accounting & Control

BA 530 Financial Management

BA 540 Organizational and Managerial Behavior

BA 550 Marketing Management

BA 560 Management Information Systems

BA 580 International Business

BA 598 Executive Policies and Planning

Students with undergraduate degrees in finance must replace BA 530 with BA 531.

International Business (IB) Concentration Track

Students seeking the M.B.A. concentration in the IB area will take a total of four 3-hour elective courses (involving 12 credit hours) as follows:

BA 581 Global Marketing

BA 582 International Finance

BA 583 Global Operations Management

BA 584 Global Business Strategies (a capstone course within IB area involving multi-part cases and the Intopia simulation game)

Management of Information (MoI) Concentration Track

Students seeking the M.B.A. concentration in the MoI area will take a total of four 3-hour elective courses.

BA 561 Database Design and Applications

BA 548b Decision Support Systems

and two of the following three courses:

BA 562 Design and Implementation of Information Systems

BA 563 Management of Financial Information

BA 564 Management of Marketing Information

General M.B.A. (G.M.B.A.) Track

Students seeking the General M.B.A. track will take a total of four elective courses (3 credit hours each) from the following pool:

BA 503 Management of Change

BA 514 Ethics of Business

BA 531 Advanced Financial Management

BA 532 Financial Institutions and Markets

BA 533 Investment Concepts

BA 541 Operations Research II

BA 544 Advanced Production Planning and Inventory Management

BA 547a Seminar: Total Quality Management

BA 547b Seminar: Service Operations Management

BA 547c Seminar: Production/Operations Management & Information System

BA 548b Seminar: Decision Support and Information Systems

BA 551 Product Strategy and Management

BA 555 Seminar: Consumer Behavior

BA 556 Seminar: Marketing Strategy

BA 558 Promotional Strategy and Management

and all elective courses designated for the MoI and IB concentrations above.

Admission Requirements

Prospective degree candidates are expected to demonstrate a readiness for graduate study and an aptitude for successful performance in graduate level work in business administration. Admission to the program is based on the applicant's undergraduate record, a satisfactory score on the Graduate Management Admission Test, and other evidence pertaining to ability to perform well in graduate work in business administration. Special circumstances and work experience may be considered if presented. More specifically, the applicant must:

1. Meet all admission requirements set forth by the Graduate School. These requirements are outlined elsewhere in the catalog.
2. Complete the Graduate Management Admission Test and have the results of the test mailed directly to graduate programs, College of Business and Administration.

Information regarding this test is available by writing to: Graduate Management Admission Test, Educational Testing Service, PO Box 6108, Princeton, NJ 08541-6108 USA. Website address: <http://www.ets.org>

To apply, one needs to complete and submit a Graduate School application and an M.B.A. program application. Application materials may be obtained from: Graduate Programs, College of Business and Administration, Southern Illinois University at Carbondale, Carbondale, IL 62901-4625, (618) 453-3030. E-mail: mbagp@siu.edu

A non-refundable application fee of \$20.00 must be submitted with any application to the M.B.A. or D.B.A. program. Attach your check or money order, payable to Southern Illinois University, to the top of the application form. Do not send cash. Only checks or money orders payable in U.S. funds cleared through a United States bank will be accepted.

Application Deadlines

	<u>Fall</u>	<u>Spring</u>	<u>Summer</u>
Assistant Applicants	March 15	September 15	February 15
Fellowship Applicants	Nov. 15 of previous year (fall awards only)		
Other U.S. Applicants	June 15	November 15	April 15
Other International Applicants	April 15	September 15	February 15

Degree Requirements

A minimum of 33 semester hours of course work is required. Students must earn a 3.0 grade point average (4.0 = A). Candidates who receive permission to write a thesis must complete a minimum of 30 semester hours of course work plus an acceptable thesis, for which 6 semester hours of credit are assigned.

Students who enter the M.B.A. degree program without the necessary foundation courses in the common body of knowledge of business and administration as specified by the American Assembly of Collegiate Schools of Business must complete them in a satisfactory manner. These students may be required to complete up to 37 semester hours of acceptable course work to satisfy this requirement.

For courses previously taken to be evaluated as possible equivalents to M.B.A. foundation courses at SIUC, one needs to have earned a grade of C or higher in each and supply the M.B.A. coordinator with the course syllabus for each course to be evaluated. Where syllabi are not available, a course catalog, or catalogs as appropriate, for the years the courses were completed may be presented. Transcripts may not be substituted for syllabi/catalog descriptions. This supporting documentation needs to be provided to the M.B.A. coordinator at least 2 weeks in advance of one's first M.B.A. advisement appointment and subsequent registration.

The M.B.A. degree program course work to be taken beyond the foundation courses is determined on an individual basis in conference with the M.B.A. program coordinator. All core and elective requirements must be met. For up-to-date information regarding the core and elective courses of the M.B.A. program, contact: Graduate Programs, College of Business and Administration, Rehn Hall, Room 133, Southern Illinois University, Carbondale, IL 62901-4625.

Students may choose to take all of their electives in a particular area such as accounting, finance, management, or marketing in fulfilling their electives, or, alternatively, take electives across 2 or more areas. Students may request approval to take one or more substantive electives outside of business which would provide training unavailable through business courses and would facilitate the student meeting career goals.

Transfer Credit

Within limits imposed by the policies of the Graduate School, an incoming student may receive transfer credit for up to 6 semester hours of equivalent course work if the courses were taken at an AACSB accredited graduate school.

A graduate student who has 6 hours or less of course work remaining in their program may petition the master's programs committee for permission to complete up to 6 hours of equivalent course work at another AACSB accredited graduate school. The determination of equivalency is to be made by the director of the Master of Business Administration degree program.

Course work from other than AACSB accredited graduate schools must be approved by the master's programs committee.

Academic Retention

In addition to the retention policies of the Graduate School, a student may earn no more than 7 hours of *C* or lower in the M.B.A. core classes, or he/she will be suspended from the M.B.A. program. A student who has 3 outstanding recorded grades of *Inc* or *Def* remaining on the grade record at the end of any semester or session, for any reason, will be deemed to be not making normal progress and will be placed on probationary status. If the student has 3 outstanding grades of *Inc* or *Def* remaining on record at the end of the next semester or session, the student will be suspended from the program. The definitions of *Inc* and *Def* may be found in the *Graduate Catalog*.

A student who is to receive a grade of *Inc* in a course is to meet with the instructor to work out a time and conditions for completion of the course within policy guidelines. Typically, a Notification of Incomplete Grade Agreement form is completed and the student is provided with a copy.

M.B.A./B.A. (Computer Science) Program

The College of Business and Administration in conjunction with the College of Science offers a five-year integrated M.B.A./B.A. (Computer Science) Program. Selected students will be admitted to this program directly after high school. Their admission to the M.B.A. is guaranteed as long as they maintain a 3.0 g.p.a. in the B.A. in Computer Science. However, they will be required to take the GMAT test as a formality prior to admission to the M.B.A. Program.

M.B.A./J.D. Concurrent Degree Program

The College of Business and Administration and the School of Law, together, offer the M.B.A./J.D. concurrent degree program. The J.D. degree alone requires completion of 90 semester hours of course work and the M.B.A. degree alone requires completion of 33 semester hours of course work; however, in the M.B.A./J.D. concurrent degree program the School of Law accepts 9 semester hours of business course work toward meeting the J.D. semester hour requirement and the College of Business and Administration accepts 9 semester hours of law toward meeting the M.B.A. semester hour requirement. The end result is that the concurrent degree program actually entails completion of 81 semester hours of law courses and 24 semester hours of business courses, with an 18 semester hours savings over pursuing both degrees separately outside of the M.B.A./J.D. concurrent degree program.

A student interested in enrolling in the M.B.A./J.D. concurrent degree program must apply both to the graduate program in law (which involves a law school application) and to the graduate program in business (which involves a Graduate School application and an M.B.A. program application) and be accepted by each program. The student may then request permission to pursue the concurrent degree program. This request must be made both to the College of Business and Administration and the School of Law and should be made prior to commencing the second-year law curriculum.

During the first academic year of concurrent work on the two degrees, the student enrolls only in the first-year law curriculum. In any subsequent academic term, the student may enroll for courses either in the School of Law or in the Master of Business Administration program. A student registered for both law and graduate courses in the same term must enroll for a minimum of 10 hours in law, and 12 semester hours in total, in order to meet A.B.A. residence requirements and the academic requirements of the School of Law.

M.A. in Telecommunications/M.B.A. Concurrent Degree Program

The College of Business and Administration and the Department of Radio-Television (R-TV) in the College of Mass Communication and Media Arts (MCMA) together offer an M.A. in telecommunications/M.B.A., a concurrent degree program leading to both the Master of Business Administration and the Master of Arts with a major in telecommunications. The M.B.A. degree requires completion of 33 semester hours of course work; the M.A. with a major in telecommunications requires the completion of 30 semester hours of course work. In the concurrent M.A. in telecommunications/M.B.A. degree program, the College of Business and Administration accepts 6 semester hours of R-TV approved course work, and R-TV accepts 6 semester hours of College of Business and Administration approved course work. The end result is that the concurrent degree program entails completion of 27 semester hours of College of Business and Administration approved courses and 24 semester hours of Radio-Television approved courses, for a total of 51 hours; this is a savings of 12 semester hours over pursuing both degrees separately outside of the M.A. in telecommunications/M.B.A. concurrent degree program.

Students interested in enrolling in the M.A. in telecommunications/M.B.A. concurrent degree program must apply to both the graduate program in the College of Business and Administration and the graduate program in R-TV and be accepted by both programs. This initiates the process to pursue the concurrent degrees.

Students enrolled only in the M.B.A. in the College of Business and Administration or the M.A. in telecommunications may request admission into the other program and approval to pursue the concurrent degree program. Admission to the concurrent degree program must be done at least one semester before the last semester of registration at SIUC.

M.B.A./M.S. in Agribusiness Economics Concurrent Degree Program

The College of Business and Administration and the Department of Agribusiness Economics (ABE) in the College of Agriculture (COA) together offer an M.B.A./M.S., a concurrent degree program leading to both the Master of Business Administration and the Master of Science with a major in agribusiness economics. The M.B.A. degree requires completion of 33 semester hours of course work; the M.S. with a major in ABE requires the completion of 30 semester hours of course work. In the concurrent M.B.A./M.S. degree program, the College of Business and Administration accepts 6 semester hours of ABE approved course work, and ABE accepts 6 semester hours of College of Business and Administration approved course work. The end result is that the concurrent degree program entails completion of 27 semester hours of College of Business and Administration approved courses and 24 semester hours of ABE approved courses, for a total of 51 hours; this is a savings of 12 semester hours over pursuing both degrees separately outside of the M.B.A./M.S. concurrent degree program.

Students interested in enrolling in the M.B.A./M.S. in agribusiness economics concurrent degree program must apply to both the graduate program in the College of Business and Administration and the graduate program in ABE. The student must be accepted by both programs. This initiates the process to pursue the concurrent degrees.

Students enrolled only in the M.B.A. in the College of Business and Administration or the M.S. in agribusiness economics may request admission into the other program and approval to pursue the concurrent degree program. Admission to the concurrent degree program must be done at least one semester before the last semester of registration at SIUC.

Doctor of Business Administration

<http://www.siu.edu/~dba>

The Doctor of Business Administration (D.B.A.) degree program is designed to prepare individuals for faculty research and teaching positions in academic institutions and for high-level administrative or staff positions in business, government, and other organizations. Candidates for the D.B.A. degree must demonstrate in-depth knowledge of business and administration and high potential to undertake significant research.

Admission Requirements

To be eligible for admission, students must have completed a master's degree or its equivalent. A grade point average in all graduate level work of 3.5 (A = 4.0) is preferred, but not less than 3.25 is permitted for admission.

In certain instances admission to the D.B.A. program directly from the baccalaureate degree is permitted. To be considered for this admission route, students must have demonstrated promise of success in the D.B.A. program through outstanding achievement at the undergraduate level (minimum grade point average of 3.5 on a 4.0 scale) and superior performance in both the verbal and quantitative components of the Graduate Management Admission Test (minimum GMAT score of 600).

Applicants with exceptional research potential or outstanding academic preparation may have the option to enter the D.B.A. program after at least one semester as an M.B.A. student at SIUC.

To apply to the D.B.A. program, each applicant is required to take the Graduate Management Admission Test (of the Educational Testing Service) and have an official report of these scores sent to SIUC. The applicant needs to complete and submit a Graduate School application and a D.B.A. program application. Application materials may be obtained from: Graduate Programs, COBA, Southern Illinois University at Carbondale, Carbondale, IL 62901-4625. E-mail: dbadm@siu.edu

A non-refundable application fee of \$20.00 must be submitted with any application to the D.B.A. program. Attach your check or money order, payable to Southern Illinois University, to the top of the application form. Do not send cash. Only checks or money orders payable in U.S. funds cleared through a United States banks will be accepted.

Degree Requirements

Students in the program must complete course work in certain foundation areas. A student who has completed successfully the requirements for the M.B.A. degree from an AACSB-accredited graduate business program will have met the foundation requirements. A student with a M.Acc. from an AACSB-accredited program will be expected to take some courses, to be determined by the student's advisory committee, outside the accounting area. All other students will either complete the following courses or demonstrate proficiency based on prior academic work:

- BA 410-3 Financial Accounting
 - BA 426-3 Managerial Economics
 - MATH 140-4 Short Course in Calculus
 - EPSY 506-4 Inferential Statistics
- and 5 courses from any 3 of the following 4 areas:
- a. BA 430, BA 510, BA 530
 - b. BA 450, BA 550, BA 598
 - c. BA 540, BA 598
 - d. BA 452, BA 520, BA 560

In addition, the student must demonstrate proficiency in computer programming.

The student must complete a prescribed program of doctoral course work beyond the foundation work. A minimum of 60 semester hours is required: 12–18 hours in the major field; 6–12 hours in a support field; 6–12 hours of research tools; and 24 hours of dissertation credit. Additional hours may be required as prescribed by the student's advisory committee.

It is expected that all doctoral course work will be completed at SIUC. In exceptional cases, the advisory committee may consider petitions to accept credit, not to exceed 6 hours, for doctoral course work done at other institutions.

In addition to the retention policy of the Graduate School, for the D.B.A. program the third grade below *B* or the second grade below *C* in any graduate level course not designated as a foundation course will result in automatic dismissal from the D.B.A. program without any right of appeal.

Advisement

For each student an advisory committee is constituted and approved according to procedures described in the D.B.A. policies and procedures document of the College of Business and Administration. The advisory committee is responsible for developing and approving a program of study for the student which meets all requirements of the Graduate School and the D.B.A. program. The specific program is designed in terms of the individual student's career objectives.

Preliminary Examinations

The preliminary examination is designed to determine the breadth and depth of the student's knowledge within the discipline. A minimum of 2 years of study (48 semester hours) beyond the baccalaureate must be completed before the student is permitted to sit for the preliminary examination, and the student must be in the last semester of all scheduled course work.

The preliminary examination has a written and oral portion. After successful completion of the written segment, the student will sit for the oral portion of the preliminary examination. Students who pass the oral portion will be recommended for candidacy when the residency and research tool requirements have been met. Students who fail the preliminary examination, or any part thereof, may petition to retake the examination or any part thereof.

Specific conditions may be stipulated before the student can sit for the examination a second time. Those who fail the preliminary examination a second time will be dismissed from the program.

Dissertation

Upon admission to candidacy, a dissertation committee is constituted and approved according to procedures described in the D.B.A. policies and procedures document of the College. The student will prepare a written proposal and submit it to the dissertation committee and make an oral presentation of the dissertation proposal. On acceptance of the written and oral presentation of the dissertation proposal by the dissertation committee, the student will proceed with further work on the dissertation topic. The dissertation committee will monitor the student's progress in completing the dissertation. A final oral examination will be administered by the dissertation committee and will cover the subject of the dissertation and other matters related to the discipline. Upon successful completion of the final oral examination, the candidate will be recommended for the D.B.A. degree.

Other Graduate Degrees Offered by the College of Business and Administration

The college also offers the Master of Accountancy (M.Acc.) degree. In addition, jointly with the School of Law the college offers the J.D./M.Acc. concurrent de-

gree program. The reader is referred to the accountancy section of this catalog for details regarding the M.Acc. and J.D./M.Acc. programs.

For More Information

Additional information regarding the M.B.A. degree program or D.B.A. degree program may be obtained by contacting Graduate Programs, College of Business and Administration, Southern Illinois University at Carbondale, Rehn Hall 133, Carbondale, IL 62901-4625. E-mail: dbadm@siu.edu or mbagp@siu.edu

Additional information regarding the M.Acc. degree program may be obtained by contacting the School of Accountancy in the College of Business and Administration.

Courses (BA)

Students desiring to enroll in these courses must be admitted to the Master of Business Administration, Master of Accountancy, or Doctor of Business Administration degree program or have permission of the associate dean for graduate study in business administration or accountancy.

410-3 Financial Accounting Concepts. Basic concepts, principles, and techniques used in the generation of accounting data for financial statement preparation and interpretation. Asset, liability, equity valuations and income determination is stressed. Prerequisite: Enrollment in M.B.A. program or consent of department.

420-3 Production/Operations Management. A survey of the design, operation and control of systems that produce goods and services. Topics include forecasting, production planning, facility location and layout, inventory management, scheduling and quality control. Prerequisite: enrollment in M.B.A. program or consent of department.

426-3 Managerial Economics. Develops conceptual framework for business decision making with emphasis on demand, costs, prices and profits. Prerequisite: enrollment in M.B.A. program or consent of department.

430-3 Business Finance. An introductory course combining both a description of the structure of business financing and an analysis of functional finance from a managerial viewpoint. Prerequisite: enrollment in M.B.A. program or consent of department; 410, Educational Psychology 506 and M.B.A. program "computer ability" foundation requirement met, or equivalent.

450-3 Introduction to Marketing Concepts. An overview of the role of marketing within an economic system and of the major marketing activities and decisions within an organization. Emphasis is on developing an understanding of the marketing process. Prerequisite: enrollment in M.B.A. program or consent of department.

452-3 Operations Research. A survey of operations research techniques with emphasis on problem formulation, model building, and model solution. Topics include mathematical programming, waiting-line models, simulation and decision theory. Prerequisite: enrollment in the M.B.A. program or consent of department; 451, Educational Psychology 506 or equivalent.

470-3 Legal and Social Environment. An overview of the legal, social, and ethical dimensions which influence business with particular attention to the role of law as a control factor of society in the business world. Prerequisite: en-

rollment in M.B.A. program or consent of department.

503-3 Management of Change. The methods and processes of planned change are examined. Special emphasis is placed on the design and implementation of continuous improvement systems and related issues of managing constant change. Change models are viewed in the context of international competitiveness and a dynamic global environment. Prerequisite: enrollment in M.B.A. or D.B.A. program, or consent of department.

510-3 Managerial Accounting and Control Concepts. Basic cost concepts, measures, methods and systems of internal accounting useful for managerial planning, implementation, control and performance evaluation. Includes cost analysis relevant for non-routine decision-making. Prerequisite: enrollment in M.B.A. program or consent of department; 410 and M.B.A. program "computer ability" foundation requirement met, or equivalent.

513-3 Accounting Concepts in Business Organizations. Accounting theory and practice as it applies to business and other organizations. Emphasis is on current problem areas in accounting and on research methods being used to resolve these problems. Prerequisite: enrollment in the D.B.A. program or consent of department.

514-3 Ethics of Business. Philosophical implications of contemporary issues in business ethics. Prerequisite: enrollment in M.Acc. or M.B.A. Program.

521-3 Business Conditions Analysis. Emphasis is given to macro-economic theory as it affects economic forecasting. Particular emphasis is given to GNP forecasting models, industry forecasts and forecasting for the firm. Prerequisite: enrollment in M.B.A. program or consent of department; 430 or equivalent.

522-3 Operations Strategy for Global Competition. Study of the development of competitive strategy for the operations function, how that strategy relates to organizational strategy and how the operations function can contribute to an organizations' competitive capabilities in the global marketplace. Prerequisite: enrollment in M.B.A. or D.B.A. programs or consent of department; 420 or equivalent.

530-3 Financial Management. A study of financial principles and practices with special emphasis on their relation to managerial planning and control. Prerequisite: enrollment in M.B.A. program or consent of department; 430, 510 and either 526 or Economics 441 and 440 or equivalent.

531-3 Advanced Financial Management. An evaluation of selected financial policies connected with the acquisition and disposition of funds by the firm. An emphasis is placed on quantitative solutions to these problems. Prerequisite: enrollment in M.B.A. program or consent of department; 430 or equivalent.

532-3 Financial Institutions and Markets. The principal financial institutions and markets will be studied in relation to their contribution to the efficient operation of the individual enterprise and the total company. Prerequisite: enrollment in M.B.A. program or consent of department; 430 or equivalent.

533-3 Investment Concepts. A study of fixed return and variable return securities, investment services, industry and issue analysis, empirical studies of groups and individual stock price movements. Prerequisite: enrollment in M.B.A. program or consent of department; 430 or equivalent.

534-3 Financial Decision Making. Study of the scope and nature of advanced financial decision making and the application of quantitative tools and techniques to decisions relating to working capital, fixed assets, cost of capital, value of the firm and financial structure. Prerequisite: enrollment in the D.B.A. program or consent of department.

536-3 Advanced Financial Analysis. Deals with examination of classical and various modern treatments of investment, valuation, cost of capital and capital structure. Portfolio, state-preference, capital markets, options pricing, mergers and exchange rate theories are explored. Prerequisite: enrollment in M.B.A. or D.B.A. program or consent of department; 430 or equivalent.

539-1 to 15 Seminar in Finance. A series of doctoral seminars on theoretical and empirical issues in finance. Sections (a) through (d) may be taken only once. Section (e) may be repeated as topics vary. (a) Corporate financial theory. (b) Financial institutions and markets. (c) Portfolio theory and speculative markets. (d) International financial theory. (e) Selected topics. Prerequisite: enrollment in D.B.A. program or consent of department.

540-3 Managerial and Organization Behavior. Case analyses of human problems in the business organization. Application of findings of behavioral science research to organization problems. Development of direction and leadership skills. Prerequisite: enrollment in M.B.A. program or consent of department; 440 or equivalent.

541-3 Operations Research II. Continuation of the survey of topics and approach taken in 452. Problem formulation; model building and elementary mastery of state-of-the-arts solution techniques are emphasized. Topics include integer programming, traveling sales representative problems, probabilistic programming, queuing, simulation and inventory theory. Prerequisite: enrollment in M.B.A. program or consent of department; 452 or equivalent.

543-3 Personnel Management. An overview of the field of personnel administration, based on a review of the relevant literature and on practice in simulations of problems typically encountered in the field. Prerequisite: enrollment in M.B.A. program or consent of department, 440 or equivalent.

544-3 Advanced Production Planning and Inventory Management. An in-depth study of analytical models and techniques for production planning, scheduling and inventory management. Designed to prepare students for relevant portions of American Production and Inventory Control Society (APICS) certification examinations. Prerequisite: enrollment in M.B.A. or D.B.A. program or consent of department, 420 or equivalent.

545-3 to 21 (3,3,3,3,3,3,3) Seminar in Organization Studies. A series of advanced seminars in organization studies. Sections (a)-(g) can be taken only once. (a) Foundations in Organization Studies. (b) Advances in Organizational Behavior. (c) Advances in Organization Theory. (d) Advances in Strategic Management. (e) Special Topics in Organizational Behavior. (f) Special Topics in Organization Theory. (g) Special Topics in Strategic Management. Prerequisite: enrollment in D.B.A. program or consent of department.

546-3 Leadership and Managerial Behavior. This course will concentrate on leader and manager behavior at middle and upper organizational levels. Emphasis will be placed on leader and manager effectiveness and the factors that impact effectiveness. Prerequisite: enrollment in M.B.A. program or consent of department, 540 or equivalent.

547-3 to 15 (3,3,3,3 to 6) Seminar in Production/Operations Management. Series of advanced seminars in Production/Operations Management. Sections (a) through (c) may be taken only once. (a) Total Quality Management. (b) Service Operations Management. (c) Production/Operations Management and Information Systems. (d) Special Topics in Production/Operations Management. Prerequisite: (a), (b), (c) enrollment in M.B.A. or D.B.A programs or consent of department; (d) enrollment in D.B.A. program or consent of department.

548-3 to 18 (3,3,3,3,3 to 6) Seminar in Management Information Systems. A series of advanced seminars on Management Information Systems (MIS). Sections (a) through (d) may be taken only once. Section (e) may be repeated as topics vary. (a) Advances in Management Information Systems. (b) Decision Support and Information Systems. (c) Quantitative and Computer Methods for Decision Support and Information Systems. (d) Strategic Management of Information. (e) 3 to 6 Special Topics in Management Information Systems. Prerequisite: (b) enrollment in M.B.A. or D.B.A. programs or consent of department; (a),(c),(d),(e) enrollment in D.B.A. program or consent of department.

550-3 Marketing Management. A managerial approach to the study of marketing. Emphasis is on the nature and scope of the marketing manager's responsibilities and on marketing decision making. Prerequisite: enrollment in M.B.A. program or consent of department, 450 or equivalent.

551-3 Product Strategy and Management. Designed to treat product management and its re-

relationships with business policies and procedures; the development of multiproduct strategies; means of developing such strategies and the problems and methods of commercialization. Prerequisite: enrollment in M.B.A. program or consent of department, 550 or equivalent.

552-3 Research Methodology for Marketing.

The study of theory, method and procedure for quantitative and qualitative analysis of primary and secondary marketing data. Emphasis is placed on application of specific research tools to the process of formulating and testing research hypotheses. Prerequisite: enrollment in D.B.A. program or consent of department.

554-3 Strategic Issues in Marketing and Society. A critical view of the social, political, legal and economic impact of strategic marketing decision making. Emphasis is on the ethical and moral ramifications of marketing activities in a complex social environment. Prerequisite: enrollment in M.B.A. program or consent of department.

555-3 Seminar in Consumer Behavior. Emphasis on the theories and research relating behavioral science to the discipline of marketing. Development of sophisticated comprehension of the consumption process is undertaken. Prerequisite: enrollment in D.B.A. program or consent of department.

556-3 Seminar in Marketing Strategy. Long run market opportunities are identified and evaluated. Methods of implementation and execution affecting the relationship of strategic marketing planning to the allocation decisions of top management are emphasized. The orientation is toward theoretical development to provide a base for continuing research in the field. Prerequisite: enrollment in D.B.A. program or consent of department.

557-3 Seminar in Marketing Theory. The philosophical bases underlying the development of theory in marketing. The process of development of marketing ideations through research is emphasized. Prerequisite: enrollment in the D.B.A. program or consent of department.

558-3 Promotional Strategy and Management. The study of the elements of the promotional mix including advertising, personal selling, sales promotion and publicity and how they apply in the profit and not-for-profit sectors of the market place. Prerequisite: enrollment in the M.B.A. program or consent of department, 550 or equivalent.

560-3 Management of Information Systems. A survey of information system design, analysis and operations. Topics include systems concepts, systems analysis and design, database management, software and hardware concepts, decision support systems, expert systems, distributed processing and telecommunications and information systems planning. Applications of information technology will be emphasized. Prerequisite: enrollment in M.B.A. program or consent of department; 452 or equivalent.

561-3 Database Design and Applications. Database planning, design and implementation; application of data modeling techniques-entity-relationship diagrams, hierarchical, network, relational and object-oriented data modeling; physical design and data administration; Distributed and

Expert Database Systems. Prerequisite: enrollment in M.B.A./M.A.C.C./D.B.A. programs or consent; 560 or equivalent.

562-3 Information Systems and Design. Principles and concepts; strategic systems planning; tools and techniques for analysis and design; construction and quality management; reusability; methodology evaluation; full life cycle CASE tools.

563-3 Management of Financial Information. An overview of new database, decision support and data communications technology used in financial institutions. Topics include loan/insurance applicant analysis, trust and investment services, value at risk, derivative security management and operations issues. Prerequisite: 452 or equivalent, 532 or equivalent, 560 or equivalent, enrollment in M.B.A. program or consent of department.

564-3 Management of Marketing Information. The purpose of this course is to focus and evaluate recent developments in information technology that carry far-reaching implications for marketing management. Specifically, the course will familiarize students with the complexities, challenges and opportunities associated with managing the recent explosion in the scope and availability of comprehensive, timely, and highly disaggregate, marketing information. Prerequisite: 560; enrollment in M.B.A. program or consent of department.

570-1 to 2 (1,1) Professional Development Dimensions. To aid the professional development of M.B.A. students by providing a variety of experiences to address attitudes, values and ethical standards. Executive guest speakers, roundtable discussion, simulations and role playing will be used. To be taken as (a) one hour and (b) one hour. Additional charges of approximately \$20 may be assessed for field trips. Prerequisite: enrollment in M.B.A. program.

573-3 Planning Systems and Strategic Decisions. A critical review of theory and research on the structure, content and process of strategic decisions. The design and implementation of planning systems also is emphasized. Prerequisite: enrollment in M.B.A. or D.B.A. program or consent of department.

574-3 Advanced Research Methods in Business Administration. A capstone research course in business administration that exposes the student to a full range of research experiences. Emphasis is on integrating learning and creative thinking in the execution of the research process. Prerequisite: enrollment in D.B.A. program.

574B-3 Advanced Research Methods II. This course is a practicum in advanced research methods. It will focus on analysis of data, interpretation of results and synthesis of conclusions based on a clear understanding of the objectives of research, the characteristics of data and techniques for manipulating data. Prerequisite: 574.

580-3 International Dimensions of Business and Management. International business and activities are examined in the international environment. The course will focus on concepts and issues of international business and will analyze the marketing, financial, accounting, managerial, logistical and production functions of interna-

tional operations. Emphasis is on integrating, learning and creative thinking through lecture and case analysis. Prerequisite: enrollment in M.B.A. program or consent of program; functional M.B.A. coursework should be completed.

581-3 Global Marketing. The basic elements of marketing management are identified in the setting of a global business environment. Emphasis is given to variables in the international markets that effect strategic business planning such as cultural, ethical, political and economic influences. The course focuses on current trends in the marketing practices of organization. Prerequisite: enrollment in the M.B.A. program or consent of department, 550 and Marketing 435 or equivalent.

582-3 International Finance. Discussion of international monetary system, parity conditions, foreign exchange markets and financial markets. Special focus on financial management of the multinational firm, including risk assessment, hedging, capital budgeting and performance evaluation and control. Prerequisite: 530, Enrollment in M.B.A. program or consent of department.

583-3 Global Operations Management. A study of issues and problems related to managing global operations and current practices. Topics include international operations comparisons, international operations improvement and competitive leverage, issues critical to global operations, international cross-functional coordination, coordinating international material flow, coordinating international process and product design, among others. Prerequisite: 580, enrollment in M.B.A. program or consent of department.

584-3 Global Business Strategies. To examine decision-making in international business via a broad study of the opportunities and problems encountered when business operations cross national boundaries; to impart current knowledge regarding the theory and practice of functional aspects of global marketing, international finance and global operations management; to focus on the multinational nature of international managerial decisions. Prerequisite: 580, enrollment in M.B.A. program or consent of department.

Courses (FIN)

There is no graduate program offered through the Department of Finance. Four-hundred-level courses may be taken for graduate credit unless otherwise indicated in the course description.

433-3 Portfolio Theory and Management. Examination of modern concepts relating to management of security portfolios. Topics include security analysis, Markowitz Portfolio Theory, efficient market hypothesis, portfolio performance measurement, risk and portfolio construction. Prerequisite: passed 331 with a grade of C or better, 361 (361 may be taken concurrently).

462-3 Working Capital Management. Short-term budgeting and forecasting techniques used in business; alternative approaches to working capital management including consideration of certainty, risk and uncertainty; theory and applications of management of cash, marketable securities, accounts receivables, inventory, banking

591-1 to 15 (3 per semester per 700 number) Independent Study. Directed independent study in selected areas of business administration. May be repeated as topics vary. Prerequisite: enrollment in M.B.A. or D.B.A. program or consent of department; consent of instructor.

595-1 to 6 Internship – Work Experience. Current practical experience in a business or other work directly related to course work in a College of Business and Administration program and to the student's educational objectives may be used as a basis for granting credit to the college. Credit is given when specific program credit cannot be granted and is usable for elective credit only. Credit is sought by petition and must be approved by the COBA dean before registration. Graded S/U or DEF only.

598-3 Business Policies. Study of the development and evaluation of business strategies and policies as they relate to the overall performance of the firm within its environment. Knowledge of the functional areas of administration, available business data and analytical tools will be utilized in solving comprehensive business cases and simulation games. Prerequisite: enrollment for past semester in M.B.A. program.

599-3 to 6 Thesis. Prerequisite: enrollment in M.B.A. program or consent of department, consent of instructor.

600-1 to 24 (1 to 16 per semester) Dissertation. Minimum of 24 hours to be earned for the Doctor of Business Administration degree. Prerequisite: advancement to candidacy for the D.B.A. program.

601-1 per semester Continuing Enrollment. For those graduate students in business who have not finished their degree programs and who have one or more INCs or DEFs on their records and/or are in the process of completing their degree requirements. The student must have previously enrolled in a minimum of 36 hours of course work that meets M.B.A. program core and elective requirement or have completed a minimum of 24 hours of BA 600 before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded S/U or DEF only.

relationships, and short-term sources of funds. Prerequisite: 361 or concurrent enrollment.

463-3 Forecasting and Capital Budgeting. Long-term forecasting techniques used in business; alternative approaches to capital structure decisions, cost of capital measurement; and performance measurement for investment decisions including mergers and leasing; explicit consideration of certainty, risk and uncertainty in investment analysis; theory and applications in private and public sectors. Prerequisite: 361 or concurrent enrollment.

464-3 International Financial Management. Financial behavior of multinational firms. Emphasis on the modification of conventional finan-

cial models to incorporate uniquely foreign variables. Prerequisite: 361 or concurrent enrollment.
480-3 Problems in Labor Law. Social, economic, and legal evaluations of recent labor prob-

Courses (MGMT)

There is no graduate program offered through the Department of Management. Four-hundred-level courses in this department may be taken for graduate credit unless otherwise indicated in the course description.

420-3 Database Management. Database planning; entity-relationship diagrams; relationed, network and hierarchical data models; normalization theory; query languages; distributed databases; applications development. Prerequisite: 345.

421-3 Automated Information System Applications Development. Principles of information engineering; information strategy planning; business area analysis and design; construction; quality assurance; use of CASE technology. Prerequisite: Management 420.

431-3 Organizational Design and Structures. The study of modern theories of complex organizations. Particular emphasis is placed on open-systems perspectives of administrative theory and the adaption of the organization to a changing environment. Prerequisite: 341 and junior standing or consent of department.

453-3 Advanced Quantitative Models for Systems Analysis. A continuation of 352. Mathematical model building in organizations and solution techniques commonly used to solve such models. An extension of topics in deterministic and probabilistic modeling introduced in 352. Prerequisite: 352, junior standing or consent of department.

Courses (MKTG)

There is no graduate program offered through the Department of Marketing. Four-hundred-level courses may be taken for graduate credit unless otherwise indicated in the course description.

401-3 Retail Management. Designed to present the basic principles in decision areas such as location, layout, organization, personnel, merchandise control, sales promotion, advertising, etc. Retail merchandising through managerial perspective. Prerequisite: 304 and junior standing or higher.

435-3 International Marketing. Analysis of international operations. Emphasis on the factors influencing marketing to and within foreign countries and the alternative methods of operations open to international firms. Prerequisite: 304 and junior standing or higher.

438-3 Sales Management. Analysis of the management of the sales effort within the marketing system. Philosophies, concepts and judgment criteria of the sales function in relationship to the total marketing program. Prerequisite: 304, Management 304 and junior standing or higher.

439-3 Business to Business Marketing. Analysis of decision criteria related to the marketing of business to business products. Emphasis on team marketing, team selling, formulation of marketing mix factors and the behavioral relationships

lems, court decisions and legislation. Concern is on long-run legislative impact on manpower planning, dispute settlement and utilization of employment resources.

456-3 Building Decision Support and Expert Systems. Investigation of selected systems and computer based methods for aiding management decision-making. Topics include systems analysis applications, simulation and decision models. Prerequisite: 345.

471-3 Seminar in Entrepreneurship. Investigation of selected special or advanced topics in seminar format. Topics may include but are not limited to entrepreneurship, small business analysis or topics related to the ownership and management of a business. Activities will include library and field research, data analysis, report writing and active participation in seminar presentations and discussions. Designed particularly for the student who has completed the three small business courses numbered 350 and has discussed personal small business or entrepreneurial objectives with the instructor prior to registration. Prerequisite: consent of department.

474-3 Management's Responsibility in Society. Analysis of the cultural, social, political, economic and immediate environment of the organization. Particular emphasis is given to the manner in which the manager adapts to and is influenced by the environment and its conflicting demands. Prerequisite: senior standing or consent of department.

in contemporary organizations. Prerequisite: 304 and junior standing or consent of department.

452-3 Physical Distribution Management. Integration of physical distribution activities of the firm into a system. Transportation and location as elements of the system. Inventories and service as constraints upon the system. Planning, operation, organization and management of the system. Prerequisite: 304 and junior standing or higher.

463-3 Advertising Management. Advertising from the viewpoint of business management. Develops an understanding of the role of advertising under various conditions. Problems of integrating advertising strategy into the firm's total marketing program. Prerequisite: 304 and 363 and junior standing or higher.

493-3 Marketing Policies. A comprehensive and integrative view of marketing policy formulation. Marketing decisions analyzed and discussed. Prerequisite: 329, 363 and 390 (not more than one to be taken concurrently) and junior standing or higher and must be a business (not prebusiness) major or consent of department.

Center for the Study of Crime, Delinquency, and Corrections

(See Administration of Justice.)

Chemistry

E-mail: chemistry@chem.siu.edu

COLLEGE OF SCIENCE

Bausch, Mark J., Associate Professor, Ph.D., Northwestern University, 1982; 1987. Organic radical anion basicities, radical acidities, stability of organic cations.

Dave, Bakul, Assistant Professor, Ph.D., University of Houston, 1993; 1996. Inorganic and organic nanocomposites, solgel based materials, bioinorganic chemistry.

Davis, Joe M., Associate Professor, Ph.D., University of Utah, 1985; 1987. Analytical, mass transport, separations, electrochemistry.

Guyon, John C., Professor, *Emeritus*, Ph.D., Purdue University, 1961; 1974.

Hinckley, Conrad C., Professor, Ph.D., University of Texas, 1964; 1966. Inorganic, magnetic resonance of transition metal complexes, osmium chemistry, iron chemistry in coal.

Koropchak, John A., Professor and *Chair*, Ph.D., University of Georgia, 1980; 1984. Analytical, atomic spectroscopy, atmospheric pressure ionization mass spectrometry, metal speciation, plasma chemistry.

Koster, David F., Professor, Ph.D., Texas A&M University, 1965; 1967. Physical, molecular structure, NMR, vibrational spectroscopy, laser-induced reactions.

Meyers, Cal Y., Professor, Ph.D., University of Illinois, 1951; 1964. Organic, nucleophilic vs electron-transfer reactions and reactivities of anions,

halogenation of anions with CX₄, electron-transfer pathways in biological reactions, correlation of structure with in vivo and receptor-site activity of estrogens.

Phillips, John B., Professor, Ph.D., University of Arizona, 1977; 1977. Analytical, chromatography, surface chemistry, laboratory computing, instrumentation.

Scheiner, Steve, Professor, Ph.D., Harvard University, 1976; 1978. Physical, theoretical biophysical chemistry, protein conformation, hydrogen bonding, proton transfers.

Schmulbach, C. David, Professor, *Emeritus*, Ph.D., University of Illinois, 1958; 1965.

Smith, Gerard V., Professor, Ph.D., University of Arkansas, 1959; 1966. Organic, mechanisms of surface reactions, heterogeneous catalytic hydrogenation and exchange, asymmetric catalysis, catalytic oxidation and ozonation, molecular probes for characterization of metal surfaces, metallic glasses as catalysts, iron sulfides as catalysts, coal conversion catalysis, stereo-chemistry, hydrodesulfurization.

Tyrrell, James, Professor, Ph.D., University of Glasgow, 1963; 1967. Physical, theoretical calculations on atoms and molecules.

Vermeulen, Lori, Assistant Professor, Ph.D., Princeton University, 1994; 1994. Materials chemistry, electron transfer.

Programs leading to the Doctor of Philosophy and Master of Science degrees may be undertaken in the general areas of analytical, materials, inorganic, organic, and physical chemistry.

The doctoral degree in chemistry is a research degree. To be awarded this degree, the student must demonstrate to the satisfaction of the graduate committee the ability to conduct original and independent research within some area of chemistry and must, in fact, make an original contribution to the science. The master's degree also requires a research project, but with less emphasis on originality and independence.

Admission

Each student must have a baccalaureate degree in one of the sciences, mathematics, or engineering to be considered for admission to an advanced degree program. An undergraduate major in chemistry, with the following courses, is desirable:

- (1) One year of organic chemistry (lecture and laboratory).
- (2) One year of calculus-based physical chemistry (lecture and laboratory).
- (3) One year of analytical chemistry including instrumental analysis.

Prospective students wishing to pursue the degree in the area of biochemistry and molecular biology are expected to have completed courses in organic chemistry, calculus-based physical chemistry, physics, and biology.

Students with deficiencies in any area may be admitted, but such deficiencies may restrict the research areas available to the student and lead to requirements for additional courses during graduate study.

Prospective students are encouraged to contact faculty in areas of the students' research interest.

Applicants are strongly encouraged to submit Graduate Record Examination (GRE) general test scores. Tests from one of the GRE subject test areas (chemistry or biology for students interested in biochemistry and molecular biology) are also encouraged.

Foreign students whose native language is not English will be required to obtain at least 550 on the Test for English as a Foreign Language (TOEFL).

Placement Examinations. During the week before the beginning of classes, each admitted student is given two written examinations (ACS standard or equivalent examination) in the two divisions of chemistry most closely related to the student's research interests. The results of these examinations are used to place the student in appropriate courses and to advise the student regarding any deficiencies to be corrected.

Introduction to Research Techniques. All graduate students during the first semester in residence (excluding the summer session) must register for CHEM 592, Introduction to Research.

Minimum Registration. All students admitted to the department will register for a minimum of 9 credit hours every semester in residence except during the first semester, summer sessions, and while registered for CHEM 601 only. Registration for less than this requirement is not considered satisfactory progress toward a degree.

Formal Course Work Requirement. All graduate students must satisfy core course requirements of the major division. Students in the doctoral program must take for credit at least 6 semester hours of formal 500-level course work outside the major division. At least 3 of these 6 hours must be within the department. Students in the master's program must take for credit at least 3 semester hours of formal 500-level course work outside the major field. Certain 400-level courses within or without the department may be used to meet this requirement. Students may major in cross-divisional areas. In such cases the formal course work requirement will be modified by agreement of the student's committee and the graduate adviser.

Students in the doctoral program must present 3 departmental seminars for credit (CHEM 595). These include one based on a literature review, the second on the topic of an original research proposal, and the final seminar on the student's own research. Only the last 2 seminars are required of students entering the doctoral program with a recognized master's degree. Students in the master's program must present 1 departmental seminar for credit.

All students must take 1 hour of CHEM 597, Professional Training, each semester in residence.

All course work requirements of the department or the major division are minimum requirements which may be increased by the student's graduate committee.

Research Director and Graduate Committee Selection. Each student should select a research director and graduate committee preferably during the first

semester, but no later than the end of the second semester in residence. The student must obtain a selection form provided by the graduate adviser and must interview at least 4 faculty members before selecting a research director and graduate committee. The committee shall consist of the research director (chair), at least 1 member of the major division other than the research director, a member outside the major division, and for a Ph.D. degree candidate a member outside the department. The chair of the Department of Chemistry and Biochemistry, if not otherwise appointed, is an ex-officio member of every graduate committee. A division may increase this requirement.

Graduate Committee Functions. The functions of the graduate committee are listed below.

1. To plan and approve the student's program of study.
2. To review the student's progress in courses and suggest and approve changes in the program of study.
3. To evaluate the student's progress in research and to make appropriate recommendations.
4. To determine whether a student may continue toward a degree. If continuation is denied, the committee must notify in writing the department chair of the reasons for this denial.
5. To read and evaluate the student's thesis or dissertation.
6. To conduct required oral examinations.

As soon as possible after being appointed, the committee will meet to plan the student's program. At this time the progress and program form is completed and filed with the graduate adviser. The committee may require preparation of a master's thesis even if directly pursuing a Ph.D. degree has been previously approved by the faculty.

Research Tools. The department requires no specific research tools. A student's graduate committee, taking into account the student's background and the needs of the research area, may require that the student acquire one or more research tools (e.g., foreign language, computer programming, statistics, and so on). Any research tool requirement must be completed before scheduling the preliminary oral examination for doctoral degree students or the final oral examination for master's degree students.

Assistantship Support. Continuation of assistantship support is contingent upon the student making satisfactory progress toward a degree. In addition, continuation of teaching assistantship support depends upon satisfactory performance of assigned duties. The Graduate School has established time limits for financial support.

First Year Evaluation. The faculty, meeting as a committee of the whole, will review the progress of all graduate students at the end of their first year in residence. For students in the doctoral program the faculty can:

1. recommend continuation in the doctoral program.
2. recommend transfer in the doctoral program.
3. request that the Graduate School terminate the student from the program (giving cause).

For students in the master's program the faculty can:

1. recommend petitioning the Graduate School to allow entry to the doctoral program (accelerated entry option). Such petition can be made any time after one semester in residence.
2. recommend continuation in the master's program with the option to petition the Graduate School to grant a master's degree equivalency. When

granted, this allows the student to apply for entrance to the doctoral program without writing and defending a thesis.

3. recommend continuation in the master's program with option to petition to enter the doctoral program after completion of a master's thesis.
4. recommend continuation in a terminal master's program.
5. request that the Graduate School terminate the student from the program (giving cause).

Preliminary Examination for the Ph.D. Degree.

Each student in the doctoral program must pass a preliminary examination before being advanced to candidacy. The written portion of the preliminary examination is given cumulatively with 10 examinations scheduled each calendar year. The student must pass 4 examinations in no more than 10 consecutive trials. Students must begin cumulative examinations no later than the semester following completion of the divisional core course requirements. After the student completes the cumulative examinations, the preparation and defense of an original research proposal will serve as the oral portion of the preliminary examination.

Summary of Ph.D. Degree Requirements. Each student must fulfill the requirements of both the Graduate School and the Department of Chemistry and Biochemistry. These requirements are:

1. to fulfill the divisional course requirements.
2. to complete at least 6 hours of formal course work at the 400/500 level outside the major division, at least 3 of which must be within the department.
3. to complete a course of study as determined by the graduate committee.
4. to maintain at least a 3.00 grade point average.
5. to attend weekly seminars and earn 2 semester hours of CHEM 595 beyond the master's degree requirement by presenting departmental seminars.
6. to earn at least 32 semester hours in research and dissertation (CHEM 598 and 600).
7. to satisfy any research tool requirement established by the student's graduate committee.
8. to pass a series of cumulative examinations which shall serve as the written portion of the preliminary examination.
9. to prepare and defend an original research proposal which shall serve as the oral portion of the preliminary examination.
10. to complete a research project and to prepare a dissertation acceptable to the student's graduate committee and the Graduate School.
11. to schedule and pass a final oral examination (defense of dissertation).

Summary of Master's Degree Requirements. Each student must fulfill the requirements of both the Graduate School and the Department of Chemistry and Biochemistry. These requirements are:

1. to fulfill the divisional course requirements.
2. to complete at least 3 hours of formal course work at the 400/500 level outside the major division.
3. to complete at least 21 hours of formal course work at the 400/500 level with grades of A, B, or C.
4. to earn at least 30 semester hours at the 400/500 level, at least 15 of which are at the 500 level.
5. to maintain at least a 3.00 grade point average.
6. to attend weekly seminars and earn 1 semester hour of CHEM 595 by presenting a departmental seminar.

7. to earn at least 8 semester hours in research and thesis (CHEM 598 and 599).
8. to satisfy any research tool requirement established by the student's graduate committee.
9. to prepare and present a thesis on the research carried out.
10. to schedule and pass a final oral examination.

Courses (CHEM)

All laboratory courses in chemistry and biochemistry require the student to purchase either special notebooks or workbooks, costing within the range of \$1.50 to \$8.50. All students enrolled in a chemistry class that includes a laboratory session will be assessed a breakage charge for all glassware broken. This policy will apply to undergraduate and graduate students.

411-3 Intermediate Inorganic Chemistry. Fundamentals of inorganic chemistry, covering bonding and structure, coordination compounds and the chemistry of some familiar and less familiar elements. Three lectures per week. Prerequisite: 456 or 462 or concurrent enrollment.

431-3 Environmental Chemistry. Chemical principles applied to the environment and environmental problems. Chemical kinetic, thermodynamic and equilibrium concepts as they relate to the atmosphere, water and soil will be discussed to include current problems of pollutants, pollutant evaluation and pollutant remediation. Discussion of methods for the chemical analysis of environmental samples will also be included. Prerequisite: 226a, b and 380a or 344, or consent of instructor.

434-2 or 4 Instrumental Analytical Chemistry. Theory and practice of instrumental measurements, including emission and absorption spectroscopic, electroanalytical, and chromatographic methods and an introduction to applied electronics. Two lectures and two three-hour laboratories per week for four credits. Enrollment for two credit hours is restricted to graduate students in the Department of Chemistry and Biochemistry who are advised to take instrumental analysis. Prerequisite: one semester of physical chemistry or concurrent enrollment in 461 or 462; 230 or consent of instructor.

439-3 Forensic Chemistry. A one-semester course in forensic methods of analysis offered in conjunction with the Southern Illinois Forensic Science Centre. Topics include identification and quantitation by gas chromatography (GC), GC/mass spectrometry (GS/MS) of drugs and arson residues, selected ion monitoring by GC/MS, Fourier-transform infrared spectroscopy (FTIR) and GC/FTIR of drugs, scanning electron microscopy, energy dispersive X-Ray analysis of paints and metals, X-Ray diffraction of inorganics and UV spectroscopy. One lecture by SIUC faculty and two labs directed by forensic scientists at the Forensic Science Centre per week. Those enrolled must submit to background checks due to presence of sensitive materials. Enrollment limited to 3-4 students per class; students with high academic standing considered. Prerequisite: 434 and instructor consent.

444-3 Intermediate Organic Chemistry. A transitional course between introductory and graduate level chemistry. The chemistry of carbon compounds based upon a mechanistic approach

will be discussed. Three lectures per week. Prerequisite: 340, 342 or one year of organic chemistry.

451-6 (3, 3) Biochemistry. (Same as Microbiology 451, Biochemistry 451 and Molecular Biology, Microbiology and Biochemistry 451) (a) Chemistry and function of amino acids, proteins and enzymes; enzyme kinetics; chemistry, function and metabolism of carbohydrates; citric acid cycle; electron transport and oxidative phosphorylation. (b) Chemistry, function and metabolism of lipids; nitrogen metabolism; nucleic acid and protein biosynthesis; metabolic regulation. Three lectures per week. Must be taken in a,b sequence. Prerequisite: one year of organic chemistry.

455-4 Biochemistry Laboratory. Modern biochemical laboratory techniques for isolation, purification and characterization of constituents of living cells and for investigations of pathways, kinetics, energetics and regulatory mechanisms related to metabolism and enzymic activity. One lecture and eight hours of laboratory per week. Prerequisite: 451a and 226 or concurrent enrollment; graduate standing in the Department of Chemistry and Biochemistry or consent of the instructor.

456-3 Biophysical Chemistry. (Same as Biochemistry 456 and Molecular Biology, Microbiology and Biochemistry 456) A one semester course in biophysical chemistry intended for biochemists and molecular biologists. Emphasis will be on solution thermodynamics, kinetics and spectroscopy applied to biological systems. Prerequisite: 340 and 342, 451a or concurrent enrollment, Mathematics 141 or 150.

461-3 Quantum Mechanics and Spectroscopy. An introduction to quantum mechanics and spectroscopy. Prerequisite: Mathematics 221 or 305.

462-3 Classical Physical Chemistry. An introduction to chemical, statistical thermodynamics and kinetics. Prerequisite: Mathematics 150; Mathematics 250 recommended.

466-1,1 Physical Chemistry Laboratory. A two semester laboratory sequence for 465. One three hour laboratory per week per semester. (a) Experiments relating to topics covered in 465a. (b) Experiments relating to topics covered in 465b. Prerequisite: 462 or concurrent enrollment.

468-3 Application of Symmetry to Chemistry. The concepts of symmetry elements, groups and character tables will be taught. Symmetry will be

applied to molecules in order to simplify and characterize their wave functions and vibrational frequencies. Prerequisite: 461 or consent of instructor.

489-1 to 3 Special Topics in Chemistry. Prerequisite: consent of instructor and of chair.

511-6 (3,3) Advanced Inorganic Chemistry. (a) Principles of group theory and their application to molecular structure, ligand field theory and its application and magnetic properties of matter. (b) Energetics, kinetics and mechanisms of inorganic systems. Prerequisite: one year of physical chemistry, 411.

519-1 to 9 (1 to 3 per semester) Advanced Topics in Inorganic Chemistry. Metal ions in biological processes and other selected topics to be announced by the department. Maximum credit nine semester hours. Prerequisite: consent of instructor.

531-3 Introduction to Analytical Separations. An introduction to the basic principles underlying separation science, with emphasis on all major chromatographies, gel and capillary electrophoresis, isoelectric focusing, field-flow fractionation, rate and isopycnic sedimentation, filtration, reverse osmosis and related methods. Prerequisite: Mathematics 250.

532-3 Analytical Chemistry Instrumentation. Theories of design and methods of interfacing components of instruments with applications to optimization of systems for determinations of chemicals in trace concentrations. Two lectures and one three-hour laboratory per week. Prerequisite: 434.

535-3 Advanced Analytical Chemistry. Theory and applications of chromatography; statistics; uses of laboratory computers in chemical instrumentation and data evaluation. Three lectures per week. Lectures will occasionally be used for laboratory operations. Prerequisite: 434.

541-3 Organic Structure and Reactivity. Structure and reactivity of organic compounds: steric, electronic, kinetic and thermodynamic aspects. NMR, ESR, IR and mass spectrometry in structure characterization. Prerequisite: Master's degree in chemistry, or a grade of *B* or better in 444, or passing grade on the organic diagnostic examination.

542-3 Mechanistic Organic Chemistry. Reaction mechanisms in organic chemistry. Orbital symmetry, photochemistry and the chemistry of the common transient intermediates. Prerequisite: Master's degree in chemistry, or a grade of *B* or better in 444, or passing grade on the organic placement examination.

543-3 Synthetic Organic Chemistry. Organic synthesis: classical and modern methods. Prerequisite: Master's degree in chemistry, or a grade of *B* or better in 444, or passing grade on the organic chemistry placement examination.

549-1 to 9 (1 to 3 per semester) Advanced Topics in Organic Chemistry. Specialized topics in organic chemistry. The topic to be covered is announced by the department. Maximum credit nine semester hours. Prerequisite: 542.

560-3 Introduction to Quantum Chemistry. Basic principles and applications of quantum mechanics to chemistry. Topics include operator and vector algebra, classical mechanics, angular momentum, approximate methods, hydrogen-like

atoms and molecular electronic structure. Three lectures per week. Prerequisite: one year of undergraduate physical chemistry.

561-3 Molecular Orbital Theory. An introduction to molecular orbital theory. Applications and limitations of various methods. Three lectures per week. Prerequisite: one year of undergraduate physical chemistry including quantum mechanics.

562-3 Advanced Molecular Spectroscopy. Theory of rotational and vibrational spectroscopy, electronic spectroscopy of molecules. Three lectures per week. Prerequisite: 468 or consent of instructor.

564-3 Statistical Thermodynamics. Principles of statistical mechanics and applications to equilibrium and nonequilibrium systems. Topics include ideal gases, monatomic crystals, lattice statistics, the cluster method, correlation functions, Brownian motion, the Boltzmann equation and the Kubo-Green technique. Three lectures per week. Prerequisite: 461 and 462 or consent of instructor.

569-1 to 9 (1 to 3 per semester) Advanced Topics in Physical Chemistry. Topic to be announced by the department. Maximum credit nine semester hours. Prerequisite: consent of instructor.

579-3 Topics in Advanced Materials. An introduction to principles, design and applications of advanced materials. The course includes an introduction to solid state chemistry, band structure, electronic and optoelectronic materials and devices and photophysics. Special topics will focus on contemporary research areas of interest as determined by the instructor. Prerequisite: consent of instructor.

592-1 Introduction to Research. Introduction to the techniques and methods of chemical research including good laboratory practice, research ethics, record keeping, publication, patents and currently active research in this department. Graded *S/U* only.

594-2 to 3 Special Readings in Chemistry. Assigned library work in any of these fields of chemistry with individual instruction by a staff member. (a) Analytical, (c) Inorganic, (d) Organic, (e) Physical. Maximum credit three hours.

595-1 Advanced Seminar in Chemistry. Advanced level talks presented by graduate students. (a) Analytical, (c) inorganic, (d) organic, and (e) physical chemistry.

596-1 to 6 (1 to 3 per semester) Master's Degree Research. Graded research for Master's Degree only. Maximum 6 credit hours. Prerequisite: admission to Master's program in Chemistry and Biochemistry. Completion of at least 9 hours of graded graduate course work in the program. Permission of student's graduate advisory committee.

597-1 to 15 Professional Training. Experience in teaching of chemistry, instrument operation and special research projects. One hour required each semester in residence. Graded *S/U* only. Prerequisite: graduate standing.

598-2 to 50 (1 to 12 per semester) Research. Maximum credit 50 hours, except by permission of the student's graduate advisory committee. Graded *S/U* only. Prerequisite: consent of chair.

599-1 to 6 Thesis. Maximum credit six hours. Prerequisite: consent of chair.

600-1 to 30 (1 to 12 per semester) Dissertation—Doctoral. Requirement for Ph.D. degree, 24 hours. Maximum credit 30 hours, except by permission of the student's graduate advisory committee. Prerequisite: 598.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the

process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Cinema and Photography

E-mail: carolw@siu.edu

(This program is currently under revision.)

COLLEGE OF MASS COMMUNICATION AND MEDIA ARTS

Boruszkowski, Lilly A., Associate Professor, M.F.A., Northwestern University, 1979; 1982. Cinema production.

Cocking, Loren D., Assistant Professor, M.A., Ohio State University, 1969; 1976. Cinema production.

Covell, Michael D., Assistant Professor, M.F.A., Ohio University, 1975; 1975. Cinema production.

Duhig, Susan, Assistant Professor, Ph.D., Cornell University, 1994; 1994. Cinema studies.

Gilmore, David A., Associate Professor, M.F.A., Ohio University, 1969; 1969. Photography.

Kolb, Gary P., Associate Professor, M.F.A., Ohio University, 1977; 1979. Photography.

Logan, Fern, Assistant Professor, M.F.A., School of the Art Institute of Chicago, 1993; 1995. Photography.

Mercer, John, Professor, *Emeritus*, Ph.D., University of Nebraska, 1952; 1958.

Methot, Maurice E., Assistant Professor, M.A., Brown University, 1995; 1997. Interactive multimedia.

Overturf, Daniel, Associate Professor and *Acting Chair*, M.F.A., Southern Illinois University at Carbondale, 1983; 1991. Photography.

Paine, Frank, Associate Professor, *Emeritus*, B.S., Iowa State University, 1950; 1960.

Roddy, Jan Peterson, Associate Professor, M.F.A., University of Illinois, 1987; 1988. Photography.

Swedlund, Charles A., Professor, M.S., Illinois Institute of Technology, 1961; 1971. Photography.

The Master of Fine Arts degree in cinema and photography provides substantial advanced study for a small number of highly talented individuals. The program emphasizes the artistic development of the individual student and the creation of quality work in cinema and photography.

Concentration in either cinema or photography is a vital component of the program. Our philosophy, however, is that graduate study should expand the student's breadth as an artist; cross-disciplinary study is therefore encouraged. Strong supporting course work in theory, history, scriptwriting, and combined media is available in the department; additional course work can be pursued through the School of Art and Design, the Interactive Multimedia Program, the Department of Theater, the School of Music, the Department of English, the Department of Anthropology, etc. A distinguished faculty of 12 artists and scholars, excellent facilities, and a variety of curricular offerings allow students to individually tailor their programs of study.

Admission

Prior to admission to the program, prospective students must present evidence of exceptional talent and/or potential in one or two concentrations offered in the degree program. This evidence will ordinarily consist of a portfolio of photographs, one or more films, or other evidence of artistic potential, as well as a supporting letter of intent. In addition, each applicant must arrange for three letters of recommendation and official transcripts from previous degree programs to be forwarded in support of the application. An interview with faculty in the appropriate area of concentration is highly recommended, particularly for applicants with minimal course work in the field.

Acceptance into the program and continuing enrollment are at the discretion of the Department of Cinema and Photography and the Graduate School. Minimal admission requirements are those of the Graduate School. Students should

contact the Director of Graduate Studies, Cinema and Photography, regarding admission procedures.

A non-refundable application fee of \$20.00 must accompany each application. The fee must be submitted as a check or money order (not cash) and made payable to Southern Illinois University. Only payments in U.S. dollars will be accepted.

M.F.A. Degree

A graduate student entering the M.F.A. program is usually expected to spend 2-3 academic years completing required work. If the student serves as a graduate assistant, a longer period may be required. Degree requirements are 60 semester hours, including 30 hours at the 500 level. The faculty reviews the creative work and artistic abilities of students at the end of their first year in the program. If the faculty concludes that a student has not made sufficient progress, the student could be dropped from the program. By the end of the third week of the third semester in residence, each student selects a major adviser from the Cinema and Photography faculty who will serve as the chair of the student's committee. The committee, composed of the chair and two additional graduate faculty members, will be in place by the end of the third semester. It is strongly recommended that one of these additional faculty members be from Cinema and Photography. Students should consult with their committee chair in choosing committee members. The committee develops a specific plan of study with the student, considering not only the requirements of the Graduate School and of the degree program, but also the goals of the student.

In the last year of residence, each student engages in intensive, independent artistic work, culminating in the M.F.A. thesis project—either a public photographic exhibition or a public screening of films. The committee chair supervises the thesis project, the exact nature of which is determined in consultation with the student and the other members of the committee. Upon completion of the thesis and an accompanying thesis paper that describes and justifies the project, the faculty committee will conduct an oral examination of the degree candidate as part of the process of evaluating the project. The thesis paper must be filed with the Graduate School; the university reserves the right to retain examples of each student's work.

Course Requirements

Photography

- 12 hours from CP 401, 402, 404, 405, 406, 407, 408, 420, 421, 422, 425, 426, 470b/c;
- 6 hours from CP 471a/b;
- 9 hours from CP 597;
- 6 hours from CP 541a/b;
- 4 hours from CP 595a;
- 14 hours from general electives;
- 6 hours from CP 598.

Cinema

- 12 hours from CP 452, 454, 455, 456, 470b/c;
- 6 hours from CP 472a/b;
- 9 hours from CP 597;
- 6 hours from CP 542a/b;
- 6 hours from CP 468 and 574;
- 4 hours from CP 595b;
- 14 hours from general electives;
- 6 hours from CP 598.

Completion of an M.F.A. creative project and oral final examination
(Registration for at least 6 hours in CP 598 required.)

Courses (CP)

Graduate work in the Department of Cinema and Photography is offered toward the Master of Fine Arts degree. Four hundred-level courses in this department may be taken for graduate credit unless otherwise indicated in the course description.

Students provide photographic materials for all cinema and photography production courses, students supply their own film, photographic paper, certain specialized chemicals, a fully adjustable 35mm or 120 roll film camera and \$15 additional cost for laboratory materials for each production course. In motion picture production courses, students provide their own film, processing, recording materials and editing supplies. In courses which involve analysis and screening of a number of films, a cost of \$10 per course for screenings will be required.

401-3 Large Format Photography. Introduction to the aesthetics and techniques of large format (sheet film cameras) photography with emphasis on personal expression and commercial/professional applications. Students purchase texts and provide photographic materials and chemicals. \$15 for additional laboratory materials. Prerequisite: 320 and consent of department.

402-6 (3,3) Sensitometry. An advanced course taught in two semesters covering the technical and visual applications of the black and white process. The initial semester deals primarily with controls over the photographic negative, the Zone System, Density Parameters and practical chemistry. The second semester encompasses all the factors related to the production of the silver print. Topics covered are materials, chemistry, equipment and the aesthetics of photographic printing. The two semesters are sequential and must be taken in order. Laboratory fee \$15. Prerequisite: 320 and permission of department.

404-3 Introduction to the Studio. Problems and possibilities in the aesthetics and techniques of studio photography: lighting, visual perception, environment, history, theory. Students purchase texts and provide photographic materials. \$15 laboratory fee. Prerequisite: 320 and consent of department.

405-3 Applied Photography I. An introduction to the theory, practice and professional responsibilities of contemporary commercial photography. Students produce a portfolio that surveys commercial applications. Areas of study include advertising, editorial and industrial components. Students provide materials and may purchase additional equipment. Laboratory fee: \$15. Prerequisite: 322 and consent of the department.

406-3 Applied Photography II. An advanced investigation into the principles outlined in 405. Students pursue a specific portfolio application throughout the course. Students provide materials and may purchase additional equipment. Laboratory fee: \$15. Prerequisite: 405 and consent of department.

407-3 Photography and the Mass Media. Exploration of the use, context, and meaning of photography in the mass media. The photograph as a communications tool will be evaluated along with the role and responsibility of the photojournalist. Students will apply theoretical concepts through group and individual assignments. Students purchase texts and provide photographic materials. Laboratory fee: \$15. Prerequisite: 320 and consent of department.

408-3 Documentary Photography: Method, Format and Distribution. Exploration of the techniques, history and contemporary context of documentary photography. Audience, publication, and distribution of documentary projects will be addressed. Each student will produce an in-depth documentary photographic project. Students purchase texts and provide photographic materials. \$15 laboratory fee. Prerequisite: 322 and consent of department.

420-3 Experimental Camera Techniques. Experimental approaches to the creation of photographic images in the camera. Students provide materials and may be required to purchase texts. Laboratory fee: \$15. Prerequisite: 322 and consent of department.

421-3 Experimental Darkroom Techniques. Experimental darkroom manipulations of the straight camera image. Students provide materials and may purchase texts. Laboratory fee: \$15. Prerequisite: 322 or consent of department.

422-3 Advanced Color Photography. Advanced study and production of color photographs with emphasis on experimental techniques using Kwik Proof and other forms of photo-mechanical reproduction. Students provide materials and may purchase texts. Laboratory fee: \$15. Prerequisite: 322 and consent of department.

425-3 to 9 (3,3,3) Studio Workshop. An intensive workshop focusing on current trends in photography. Topics have included landscape photography, architectural photography, environmental portraiture and imagemaking, among others. Students provide photographic materials and may purchase texts. Laboratory fee: \$15. Prerequisite: 322 and consent of department.

426-3 Non-Silver Photography. Intensive introduction to hand-applied emulsions of cyanotype, vandyke brownprinting, gum printing, etc. Students purchase materials and may purchase texts. Laboratory fee: \$15. Prerequisite: 322 and consent of department.

449-3 Survey of Film History. Intensive study of major historical periods of narrative cinema, including technological developments, national cinema movements, aesthetic traditions, economic and political determinations and concerns of film historiography. Prior completion of 360 is strongly recommended. Screening fee: \$10.

452-3 Screenwriting. A study of screenplay structure, from idea development through first draft, for feature-length, classically-structured scripts and short subjects. Includes outlines/treatments, scene work, character develop-

ment and formatting. Student will be required to work on original scripts. Prerequisite: 355, junior standing, or consent of the instructor.

454-3 Animated Film Production. Practical course for visual expression exploring various animation techniques: developmental, filmographic, rear lit, cut out, line, cel, etc. Students purchase texts, art supplies, film materials and processing. Equipment usage fee: \$10. Prerequisite: 355 and/or consent of department.

455-3 Film Production III. Advanced production by individuals or crews of 16mm sound films from pre-production through shooting. Intensive study of budgeting, production planning, scripting, casting, location and studio shooting techniques, equipment rental, lighting and double system sound filming. Students provide film stock, processing and sound materials. Equipment usage fee: \$50. Prerequisite: 356 and consent of department.

456-3 Film-Production IV. Continuation of 455 through post production to a first answer print. Intensive study of editing, sound mixing, laboratory procedures and distribution. Students provide editing and sound materials and are responsible for laboratory costs. Equipment usage fee: \$50. Prerequisite: 455 and consent of department.

461-3 History of the Documentary Film (1875-1960). The development of the non-fiction film. This study will include early sequential photography, the beginnings of cinema, early ethnographic film, institutional documentaries, The Film Front, World War II documentaries, the Free Cinema Group and close with early works in the direct cinema style. Screen fee: \$10. Student purchase texts.

462-3 History of the Documentary Film (1960-Present). An examination of styles in documentary film based upon historical precedent, technological changes, responses to theoretical and ethical questions and the influences of theatrical distribution and television. Screen fee: \$10. Students purchase texts. Completion of 461 recommended.

463-3 History of the Experimental Film. Study of experimentation in cinema from the turn of the century to contemporary avant-garde films. Student purchase texts. Screening fee: \$10.

466-3 to 6 (3,3) Film Styles and Genres. Intensive study of a specific body of films grouped by similarities in style, genre, period or cultural origin. Emphasis is on historical, theoretical and critical issues. Topics vary. Sample topics: the science fiction film, the French new wave; Third World cinema; surrealism in film. May be taken two times if topic differs. Prior completion of 360 is strongly recommended. Screening fee: \$10.

467-3 to 6 (3,3) Film Authors. Intensive study of the work of one or more film authors (directors, screenwriters, etc.). Emphasis is on historical, theoretical and critical issues. Topics vary. Sample topics: the films of Alfred Hitchcock, the films of Chantal Akerman, the films of Andrei Tarkovsky. May be taken two times if topic differs. Prior completion of 360 is strongly recommended. Screening fee: \$10.

470-3 to 9 (3,3,3) Advanced Topics. An advanced course concentrating on special topics in cinema and photography. (a) Advanced studies in cinema history/theory. Sample topics: visualizing

the body, feminist film theory, surveillance and the cinema. Screen fee: \$10. (b) Advanced topics in film production. Topics offered include motion picture sound workshop, narrative film workshop. Equipment fee: \$50. (c) Advanced studies in photography. Topics offered have included publication and presentation, digital imaging, multi-image, narrative tableau, among others. Laboratory fee: \$15. (d) Advanced studies in interdisciplinary topics. Letter designation may be repeated if topic varies, though no more than six semesters may be counted for graduate credit. Prerequisite: consent of department.

471-3 to 6 (3,3) Problems in Creative Production: Photography. Conceptual exercises involving different aspects of photographic production. Emphasis is placed upon individual creative response to assignments. Topics vary; may be repeated for a total of six credits. Students provide photographic materials and chemicals and may purchase texts. Prerequisite: 322 and consent of department.

472-3 to 6 (3,3) Problems in Creative Production: Cinema. An intensive examination, through readings, screenings, and filmmaking, of a cinematic genre, style, movement, or technical challenge. Theory is combined with practice, resulting in a group film production. Previous problems studied have been the pseudo-documentary, optical printing, 35mm filmmaking and film as performance. Topics may vary; may be repeated for a total of six credits. Equipment usage fee: \$50. Prerequisite: consent of department.

541-6 (3,3) Seminar: History of Photography. Advanced study of the history of photography within a variety of social contexts, including the fine arts. Primary focus is on the historical development of the medium in the United States, though topics covering some international works are included. An analytical approach to major subject areas is taken. Students purchase texts. The two semesters are sequential and should be taken in order.

542A-3 Seminar in Film History: American. Analysis of the films and ideas associated with a particular director or a significant movement in motion picture history. Screening fee. Students purchase texts. Course content varies each semester; may be repeated for a total of six credits.

542B-3 Seminar in Film History: International. Analysis of the films and ideas associated with a particular director or a significant movement in motion picture history. Screening fee. Students purchase texts. Course content varies each semester; may be repeated for a total of six credits.

574-3 Contemporary Theory and Analysis of Cinema. An intensive examination of recent theoretical approaches to the cinema, including theories of cinematic language, the cinematic apparatus, spectatorship, gender and sexuality, and politics and ideology critique. Background reading in the intellectual traditions that inform contemporary theory may also be assigned. Films related to the issues under study are screened.

575-6 (3,3) Contemporary Theory and Analysis of Photography. Selected readings in the critical theory and aesthetics of photography. Weekly reading assignments, discussion and pa-

pers/projects. Students purchase texts or Xerox packs. The two semesters are sequential and should be taken in order.

591-1 to 6 Individual Study in Cinema and Photography. Supervised research or independent creative work, the area of study to be determined by the student in consultation with cinema and photography faculty. Prerequisite: consent of department.

595-1 to 15 Graduate Seminar. A seminar for graduate degree candidates focusing on the artistic development of the participants. Prerequisite: admission to the M.F.A. Program in Cinema and Photography.

597A-1 to 16 M.F.A. Projects — Cinema. Supervised independent creative work, the amount and exact nature of which is to be determined in consultation with the Cinema and Photography faculty. Equipment usage fee: \$50. Prerequisite: admission to the M.F.A. program and consent of department.

597B-1 to 16 M.F.A. Projects — Photography. Supervised independent creative work, the amount and exact nature of which is to be determined in consultation with the Cinema and Photography faculty. Laboratory fee \$15. Prerequisite:

admission to the M.F.A. program and consent of department.

598A-1 to 6 M.F.A. Final Creative Project —Cinema. Supervised independent creative work leading to the completion of the M.F.A. creative project requirement. Registration for six hours of 598 is required of each M.F.A. candidate. Equipment usage fee: \$50. Prerequisite: admission to the M.F.A. program and consent of the department.

598B-1 to 6 M.F.A. Final Creative Project —Photography. Supervised independent creative work leading to the completion of M.F.A. creative project requirements. Registration for six hours of 598 is required of each M.F.A. candidate. Laboratory fee \$15. Prerequisite: admission to the M.F.A. program and consent of the department.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Civil Engineering

E-mail: cedept@engr.siu.edu

COLLEGE OF ENGINEERING

Bravo, Rolando, Associate Professor, Ph.D., University of Houston, 1990; 1991. Surface and subsurface hydrology, hydraulics and fluid mechanics.

Chevalier, Lizette R., Assistant Professor, Ph.D., Michigan State University, 1994; 1995. Environmental restoration of groundwater aquifers, experimental investigation of immiscible flow, and numerical modeling of subsurface transport.

Cook, Echol E., Professor, *Emeritus*, Ph.D., Oklahoma State University, 1970; 1971. Biological waste treatment, fixed bed reactors, solid waste disposal.

Craddock, James N., Associate Professor, Ph.D., University of Illinois, 1979; 1980. Solid mechanics, stress analysis; computational mechanics, composite materials.

Davis, Philip K., Professor, *Emeritus*, Ph.D., University of Michigan, 1963; 1964.

DeVantier, Bruce A., Associate Professor, Ph.D., University of California-Davis, 1983; 1983. Water quality modeling, sediment transport, turbulence modeling, finite element methods.

Evers, James L., Associate Professor, Ph.D., University of Alabama, 1969; 1969. Compressible fluid flows, dynamics, pneumatic transport, hydraulic transients.

Ghaffoori, Nader, Associate Professor, Ph.D., University of Miami, 1986; 1989. Recycling and utilization of industrial wastes for construction applications, wastes in concrete, durability, strength and behavior of concrete systems.

Hamed, Jihad T., Assistant Professor, Ph.D., Louisiana State University, 1990; 1991. Geotechnical engineering, design, soil behavior, soil remediation.

Kassimali, Aslam, Professor, Ph.D., University of Missouri, 1976; 1980. Structural engineering, nonlinear structural analysis, structural dynamics and stability.

Molls, Thomas R., Assistant Professor, Ph.D., Washington State University, 1992; 1993. Hydraulic engineering, computational fluid mechanics.

Nowacki, C. Raymond, Associate Professor, *Emeritus*, Ph.D., University of Illinois, 1965; 1963.

Puri, Vijay K., Associate Professor, Ph.D., University of Missouri-Rolla, 1984; 1986. Geotechnical engineering, soil dynamics, machine foundations, liquefaction of soils.

Ray, Bill T., Associate Professor, Ph.D., University of Missouri-Rolla, 1984; 1985. Chemical and biological treatment, fixed-film reactors, residuals management, toxic waste treatment.

Rubayi, Najim, Professor, *Emeritus*, Ph.D., University of Wisconsin, 1966; 1966.

Sami, Sedat, Professor and *Chair*, Ph.D., University of Iowa, 1966; 1966. Fluid mechanics, hydraulics and hydrology.

Yen, Max Shing-Chung, Professor, Ph.D., Virginia Polytechnic Institute, 1984; 1984. Composite materials, experimental mechanics, solid mechanics, and structural dynamics.

Master of Science Degree in Civil Engineering

Graduate work leading to the Master of Science degree in civil engineering is offered by the College of Engineering. The program is designed to provide advanced study in the areas of environmental engineering, geotechnical engineering, hydraulic engineering and water resources, structural engineering, fluid mechanics, solid mechanics and engineering materials.

Admission

Students seeking admission to the graduate program in civil engineering must meet the admission standards set by the Graduate School and have a bachelor's degree in engineering or its equivalent. A student whose undergraduate training is deficient may be required to take coursework without graduate credit.

A non-refundable application fee of \$20.00 must be submitted with the application. Attach your check or money order, payable to Southern Illinois University, to the top of the application form. Do not send cash. Only checks or money orders payable to United States banks will be accepted.

Requirements

A graduate student in civil engineering is required to develop a program of study with a graduate adviser and establish a graduate committee of at least three members at the earliest possible date. Each student majoring in civil engineering may, with the approval of the graduate committee, also take courses in other branches of engineering or in areas of science and business, such as physics, geology, chemistry, mathematics, life science, administrative sciences, or computer science.

For a student who wishes to complete the requirements of the master's degree with a thesis, a minimum of thirty semester hours of acceptable graduate credit is required. Of this total, eighteen semester hours must be earned in the civil engineering department. Each candidate is also required to pass a comprehensive examination covering all of the student's graduate work including thesis.

If a student prefers the non-thesis option, a minimum of thirty-six semester hours of acceptable graduate credit is required. The student is expected to take at least twenty-one semester hours within the civil engineering department including no more than three semester hours of the appropriate 592 course to be devoted to the preparation of a research paper. In addition, each candidate is required to pass a written comprehensive examination.

Each student will select a minimum of three engineering graduate faculty members to serve as a graduate committee, subject to the approval of the chair of the civil engineering department. The committee will:

1. approve the student's program of study;
2. approve the student's research paper topic;
3. approve the completed research paper; and
4. administer and approve the written comprehensive examination.

Teaching or research assistantships and fellowships are available for qualified applicants. Additional information about the program, courses, assistantships, and fellowships may be obtained from the College of Engineering or the Department of Civil Engineering.

Courses (CE)

Graduate work in the Department of Civil Engineering and Mechanics is offered toward a concentration for the Master of Science degree in engineering. Safety glasses are required for some of the courses in this department. Four-hundred-level courses in this department may be taken for graduate credit unless otherwise indicated in the course description.

410-3 Solid and Hazardous Waste Engineer. Engineering aspects of solid and hazardous waste prevention, treatment, recycling and disposal. Design of recycling programs, solid and hazardous waste treatment and disposal facilities. State and federal regulations. Problems, sources and effects of solid and hazardous waste. Design projects required. Prerequisite: 411.

411-3 Environmental Engineering Processes. Physical, chemical and biological treatment as applied to environmental engineering. Topics include biological processes, coagulation, flocculation, sedimentation, surface phenomena, membrane processes, chlorination and filtration. Design of environmental systems. Laboratory. Prerequisite 310.

413-3 Collection Systems Design. Design of waste water and storm water collection systems including installation of buried pipes. Determination of design loads and flows, system layout and pipe size. Prerequisite: 310 and 370a.

415-3 Wastewater Treatment. A study of the design equations used in physical, chemical and biological treatment processes and comparison to design by state standards. Basics of bacteria and their metabolic processes in the degradation of organic wastes. Treatment and disposal of sludges produced in wastewater treatment. Advanced wastewater treatment processes and reuses of wastewater. Prerequisite: 370, 411 and Engineering 351.

417-1 Water Quality Laboratory. Measurements of water quality parameters performed. Use of modern instrumental techniques demonstrated. Safety glasses are required. Laboratory supply fee: \$15. Prerequisite: 310.

419-3 Water Supply and Treatment. Water quality requirements, water sources, water treatment to include coagulation and flocculation, mixing and sedimentation basins, filtration, disinfection processes and water softening. Consideration of toxic elements in water (sources, problems and treatments). Prerequisite: 411 and 370.

421-3 Foundation Design. Application of soil mechanics to the design of the foundations of structures; bearing capacity and settlement analysis; design of shallow footings; stability of earth slopes; design of retaining walls, design of pile foundations, coffer dams. Prerequisite: 320.

422-3 Environmental Geotechnology. Theory of mass transport and flow in saturated and vadose zone; stochastic transport theory; retardation and attenuation of dissolved solutes; flow of non-aqueous phase liquids; groundwater remediation. Prerequisite: 310, 320.

431-3 Pavement Design. Design of highway and airport systems: subgrades, subbases, and bases; soil stabilization; stresses in pavements; design of flexible and rigid pavements; cost analysis and pavement selection; and pavement evaluation and rehabilitation. Prerequisite: 320 and 330.

440-3 Statically Indeterminate Structures. Analysis of trusses, beams, and frames. Approximate methods. Method of consistent deformations. Three-moment theorem. Slope deflection. Moment distribution. Column analogy. Plastic analysis. Matrix methods. Prerequisite: 340.

441-3 Matrix Methods of Structural Analysis. Flexibility method and stiffness method applied

to framed structures. Introduction to finite elements. Prerequisite: 340 and Engineering 222.

442-3 Structural Steel Design. An introduction to structural steel design with emphasis on buildings. Composite design. Plate girders. Rigid frames. Design project and report required. Prerequisite: 340.

444-3 Reinforced Concrete Design. Behavior and strength design of reinforced concrete beams, slabs, compression members and footings. Prerequisite: 340.

445-3 Reinforced Masonry Design. Materials. Loads. Walls. Columns and pilasters. Beams. Lateral-load resisting elements. Connections and joints. High-rise structures. Environmental features. Quality control. Design project and report required. Prerequisite: 444.

446-3 Prestressed Concrete Design. Fundamental concepts of analysis and design. Materials. Flexure, shear, and torsions. Deflections. Prestress losses. Composite beams. Indeterminate structures. Slabs. Bridges. Prerequisite: 444.

447-3 Seismic Design of Structures. Basic seismology, earthquake characteristics and effects of earthquakes on structures, vibration and diaphragm theories, seismic provisions of the Uniform Building Code, general structural design and seismic resistant concrete and steel structures. Prerequisite: 442 and 444 or consent of instructor.

451-3 Introduction to Finite Elements in Engineering Applications. (Same as Engineering Mechanics 451.) Introduction to finite element techniques and computer methods in finite element applications. Theory and structure of algorithms for one-dimensional and multi-dimensional problems. Introduction to boundary element methods. Applications in solid mechanics, structural analysis, groundwater flow and heat transfer. Prerequisite: Engineering 351 or equivalent.

471-3 Modeling Ground Water Flow and Pollution. Mathematical and numerical models for the analysis of groundwater flow and the transport of pollution by moving groundwater. Finite difference and finite element methods. Transport by advection and dispersion. Application to the design of production wells and remediation of polluted areas. Prerequisite: 413 or consent of instructor.

472-3 Intermediate Fluid Mechanics. A detailed derivation of the Navier-Stokes equations is presented. A working knowledge of these equations is obtained by analyzing several potential flows and some simple viscous flows. Next, the Reynolds' equations are derived followed by an introduction to turbulence. Contaminant transport is covered by introducing the concepts of diffusion and dispersion. Finally, the foundations of computational fluid dynamics are presented culminating in the numerical solution of several simple viscous flows. Prerequisite: Engineering 370 and Mathematics 305.

473-3 Hydrologic Analysis and Design. Hydrological cycle, stream-flow analysis, hydrographs generations, frequency analysis, flood routing, watershed analysis, urban hydrology, flood plain analysis. Application of hydrology to the design of small dams, spillways, drainage systems. Prerequisite: 370, Engineering 222a.

474-3 Hydraulic Engineering Design. Hydrostatics, flow in pipes, open channels and porous media metering devices. Includes two to three week projects involving identification, modeling, analysis and design of hydraulic engineering systems. Prerequisite: 370 and Engineering 351.

500-1 to 4 Seminar. Collective and/or individual study of selected issues and problems relating to various areas of civil engineering. Prerequisite: graduate standing.

510-3 Hazardous Waste Engineering. Analysis of hazardous waste generation, storage, shipping, treatment, and disposal. Source reduction methods. Government regulations. Remedial action. Prerequisite: 427 and Engineering 300.

512-3 Aqueous System Analysis. Applied environmental chemistry as it relates to the natural environment and engineered treatment systems. Topics include thermodynamics and kinetics, acid-base equilibria, computer modeling of aqueous systems, the carbonate system, precipitation and dissolution, coordination chemistry and oxidation-reduction reactions. Prerequisite: 310, 415, 417.

516-3 Water Resources Management. Water quality factors and control methods. Technical, economic, social and legal aspects concerned with implementation of various engineered systems for water quality management. Case studies. Prerequisite: 415.

517-3 Industrial Waste Treatment. Theories and methods of treating industrial wastes. Case studies of major industrial waste problems and their solutions. Prerequisite: 415.

518-3 Advanced Biological Treatment Processes. The biochemical and microbial aspects of converting substrate to bacterial cell mass or products and its use in various phases of industry (both fermentation and wastewater treatment). Design of activated sludge and trickling filter plants from lab data obtained on explicit wastes from both industry and municipalities. Prerequisite: 415.

520-3 Advanced Geotechnical Engineering I. Advanced theories of soil mechanics including stress distribution, seepage through soils, consolidation and settlement analysis; their applications in foundation engineering. Prerequisite: 320 and Engineering 311.

521-3 Advanced Geotechnical Engineering II. Shear strength of cohesive and cohesionless soils; stability problems including bearing capacity, slope stability and earth pressure distribution. Prerequisite: 520.

522-3 Advanced Foundation Engineering. Case histories of foundation failure, bearing capacity theories, shallow foundations, deep foundations, piles under vertical and horizontal loads, pier foundations, foundations for difficult soil conditions, soil improvement. Prerequisite: 421.

523-3 Soil Dynamics. Problems in dynamic loading of soils, dynamic soil properties, liquefaction, dynamic earth pressure, foundations for earthquake and other dynamic loads. Prerequisite: 320 and 421.

540-3 Structural Dynamics. Analysis of the dynamic response of multidegree-of-freedom framed structures. Structural idealizations. Matrix formulation. Lagrange's equations. Response calculation by modesuperposition and direct integra-

tion methods. Analysis for earthquakes. Prerequisite: 340 or consent of instructor.

542-3 Nonlinear Structural Analysis. Analysis of the nonlinear response of framed structures subjected to static and dynamic loads. Structural idealizations. Response calculation by incremental and iterative techniques. Instability phenomena of snap-through and bifurcation. Post-buckling behavior. Approximate formulations. Detection of instability under dynamic loads. Prerequisite: 441 or 551 or consent of instructor.

544-3 Advanced Design of Reinforced Concrete. Deep beams, shear friction. Slab, beam, girder systems. Monolithic joints. Retaining walls. Deflections. Length effects on columns. Two-way floor systems. Yield line theory. Torsion. Seismic design. Prerequisite: 444.

545-3 Advanced Steel Design. Economical use of high strength steel; behavior and design bolted and welded building connections, plate girders and composite steel-concrete beams; brittle fracture and fatigue; and low-rise and industrial-type buildings. Prerequisite: 442.

551-3 Finite Element Analysis. (Same as Mechanical Engineering 565). Finite element analysis as a stress analysis or structural analysis tool. Derivation of element stiffness matrices by various means. Application to trusses, plane stress/strain and 3-D problems. Dynamic and material nonlinearity problems. Prerequisite: Engineering 311 and Mathematics 305.

552-3 Theory of Elasticity. Stress and strain and equations of elasticity; equilibrium equations; compatibility equations; stress functions; applications of elasticity in solving engineering problems in two- and three-dimensions. Prerequisite: Engineering 311 and Mathematics 305.

553-3 Theory of Plasticity. (Same as Mechanical Engineering 513) Criteria for onset of yielding, isotropic and kinematic strain hardening; flow rules for plastic strains; elastic plastic bending and torsion, slip line field theory; plane stress problems; limit analysis. Prerequisite: Engineering 311 and Mathematics 305 or consent of instructor.

554-3 Experimental Mechanics. An introduction of various experimental techniques that are commonly used to determine properties such as deformation, straining, surface contour, etc. The topics to be covered include the principles of strain gage technology, theory of photoelasticity, piezoelectric accelerometer, laser based interferometry, image processing and analysis, and reverse mechanics. The specific areas of practical application of each experimentation will be discussed. Prerequisite: 311.

556-3 Theory of Laminate Composite Structures. Orthotropic and Anisotropic Materials, Laminated Plate Theory, Ritz Method, Galerkin's Method, bending, buckling and vibration of laminated structures. Prerequisite: Engineering 311 and Mathematics 215.

557-3 Advanced Mechanics of Materials. (Same as Mechanical Engineering 566). Advanced topics in mechanics of materials including: elasticity equations; torsion of non-circular sections; generalized bending including curved beams and elastic foundations; shear centers; failure criteria including yielding, fracture and fatigue; axisymmetric problems including both thick and thin

walled bodies; contact stresses; and stress concentration. Prerequisite: Engineering 222 and 311.

570-3 Computational Fluid Dynamics. Advanced topics in the computer solution of complex 2-D and 3-D fluid flows. Consideration of various finite difference formulations in different coordinate systems. Upwind differencing, stability analysis, explicit methods, implicit methods, boundary condition formulation. Introduction to finite element approach. Prerequisite: 472 and Engineering 351 or consent of instructor.

571-3 Mechanics of Viscous Fluids. Theory of laminar viscous flows using the continuum approach. The stress and rate-of-deformation tensors; exact solutions including slow motion and problems of the laminar boundary type. Introduction to hydrodynamic stability. Prerequisite: 472 or consent of instructor.

572-3 Mechanics of Inviscid Fluids. A study of stream functions, the velocity potential, Euler equations, Bernoulli equations, various solutions to Laplace's equation, added masses, Taylor theorem, Blasius and Kármán theorems, two-dimensional irrotational flows, Cauchy-Riemann equations, conformal mapping, vortex flow, thin airfoil theory, and free-streamline flows. Prerequisite: 472 or consent of instructor.

573-3 Open Channel Hydraulics. Open channel flow; energy and momentum; design of channels; gradually varied flow computations; practical problems; spatially varied flow; rapidly varied flow; unsteady flow; flood routing; method of characteristics. Prerequisite: 474 or consent of instructor.

592-1 to 5 Special Investigations in Civil Engineering. Advanced Civil Engineering Topics and/or problems in (a) Structural Engineering, (b) Hydraulic Engineering, (c) Environmental Engineering, (d) Geotechnical Engineering, (e) Fluid Flow Analysis, (f) Computational Mechanics, (g) Composite Materials, and (h) Stress Analysis. Prerequisite: graduate standing and consent of instructor.

599-1 to 6 Thesis.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Communication Disorders and Sciences

See Rehabilitation Institute for program description.

Computer Science

E-mail: csinfo@cs.siu.edu

COLLEGE OF SCIENCE

Carver, Norman F., III, Assistant Professor, Ph.D., University of Massachusetts, 1990; 1995. Distributed AI, sensor interpretation and (distributed) situation assessment, architectures for knowledge-intensive control of AI systems, reasoning under uncertainty and symbolic representations of uncertainty, abductive inference, real-time AI, parallel AI.

Chu, Jiang-Hsing, Associate Professor, Ph.D., University of Maryland, 1989; 1989. Analysis and design of computer algorithms, data structures, storage and retrieval algorithms, computer graphics and artificial intelligence.

Danhof, K. J., Professor, Ph.D., Purdue University, 1969; 1969. Intelligent systems, parallel programming, analysis and complexity of computer algorithms, combinatorics, logic programming.

Gupta, Bidyut, Associate Professor, Ph.D., University of Calcutta, 1986; 1988. Fault-tolerant computing, VLSI design, graph theory, computer networks.

Hou, Wen-Chi, Associate Professor, Ph.D., Case Western Reserve University, 1989; 1989. Statistical, real-time databases, query optimization.

Mark, Abraham M., Professor, *Emeritus*, Ph.D., Cornell University, 1947; 1950.

McGlenn, R. J., Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1976; 1981. Computer education, social issues of computing, software engineering, object-oriented programming.

Phillips, Nicholas C.K., Associate Professor, Ph.D., University of Natal, 1967; 1988. Theoretical computer science, language constructs, computational combinatorics.

Tragoudas, Spyros, Associate Professor, Ph.D., University of Texas at Dallas, 1991; 1991. Computer aided design for VLSI design and test, sequential/parallel algorithms, combinatorial optimization, networking.

Wainer, Michael S., Associate Professor, Ph.D., University of Alabama at Birmingham, 1987; 1988. Computer graphics, HCI, parallel and distributed processing, visual programming.

Wright, W. E., Professor, D.Sc., Washington University, 1972; 1970. File organization, disk architecture, database systems, application software development.

Zargham, M. R., Professor and *Chair*, Ph.D., Michigan State University, 1983; 1983. Computer architecture, fuzzy logic, parallel processing, expert systems.

The Department of Computer Science offers a graduate program leading to the Master of Science degree with a major in computer science. Application forms for admission to the Graduate School may be obtained from the department.

A non-refundable application fee of \$20.00 must be submitted with the application. Attach your check or money order, payable to Southern Illinois University, to the top of the application form. Do not send cash. Only checks or money orders payable to United States banks will be accepted.

Admission and Retention

Decisions concerning the admission of students to, and retention of students in, the graduate program will be made by the department faculty subject to the requirements of the Graduate School.

The evaluation of applicants for admission is based primarily on the student's academic record with particular attention being given to past performance in relevant undergraduate course work. Applicants are expected to have a substantial background in undergraduate computer science courses covering high level and assembly language programming, data structures, computer organization, logic design as well as discrete mathematics, calculus, and linear algebra. In most cases, it would be expected that the applicant has completed course work in the above subject areas prior to admission. Normally, a GPA of at least 3.0/4.0 is required by the Department of Computer Science. In addition, applicants must submit Graduate Record Examination (GRE) general test scores. It is recommended that results from the GRE subject area test (computer science or a related field) also be submitted.

Requirements. A student who has been admitted to the graduate program in computer science can meet the requirements for the Master of Science degree by completing 30 hours of graduate credit subject to the following constraints:

1. Each of the courses CS 401, CS 414, and CS 455 must be taken. (If a specific course, or its equivalent, is already part of the student's academic background, an alternate course will be substituted.)
2. The 30 hours of graduate work must include at least four 500-level lecture courses.
3. Students are required to write a thesis carrying credit under CS 599. After completion of all work, the student will be given a final oral examination over the thesis and other course work.

Courses (CS)

401-3 Computer Architecture. Review of logical circuit design. Hardware description languages. Algorithms for high speed addition, multiplication and division. Pipelined arithmetic. Implementation and control issues using PLA's and microprogramming control. Cache and main memory design. Input/Output. Introduction to interconnection networks and multiprocessor organization. Prerequisite: 315 with a grade of C or better.

402-3 Theory and Applications of Computer Aided Design. A study of algorithmic techniques which solve high complexity design rules. Graph algorithms and formulations, randomized solutions, techniques from operations research and statistics, computational geometry algorithms and data structures are introduced. The techniques are mainly applied on the physical design/automation problem for integrated circuits and systems. Prerequisite: 315 and 355 each with grade of C or better.

414-3 Operating Systems. An extended treatment of the components of operating systems, including I/O programming, memory management, virtual memory, process management, concurrency, device management and file management. Prerequisite: 306 and 330 each with a grade of C or better.

416-3 Compiler Construction. Introduction to compiler construction. Design of a simple complete compiler, including lexical analysis, syntactical analysis, type checking and code generation. Prerequisite: 306 and 311 each with a grade of C or better.

420-3 Parallel and Distributed Computing. This course serves as an introduction to the areas of parallel and distributed computing. The major approaches to parallel programming, including shared-memory multiprocessing and message-passing multicomputing, will be covered in some detail. Students will have programming experience in each of these paradigms. Architectural considerations, algorithm design and measures of

performance will be covered. In addition, the course will provide an introduction to distributed computing on a network of computers. Parallel and distributed computing will be contrasted. Other approaches to parallelism including data parallelism (SIMD) and vector processing will be surveyed. Prerequisite: 306 and 355 each with a grade *C* or better.

430-3 Database Systems. A comprehensive treatment of database systems, including network, hierarchical and relational systems. Prerequisite: 330 with a grade of *C* or better.

435-3 Software Design and Development. An exercise in the analysis, design, implementation, testing, and maintenance of a large modular application system. Team production of a system is the focal point for the course. Topics include the system life cycle, system specification, human interfaces, modular design, improved programming techniques and program verification and validation. Prerequisite: 306 and 330 each with a grade of *C* or better.

436-3 Artificial Intelligence I. Search and heuristics, problem reduction. Predicate calculus, automated theorem proving. Knowledge representation. Applications of artificial intelligence. Parallel processing in artificial intelligence. Prerequisite: 311 and 355 each with a grade of *C* or better.

440-3 Computer Networks. Design and analysis of computer communication networks. Topics to be covered include queuing systems, data transmission, data link protocols, topological design, routing, flow control, security and privacy and network performance evaluation. Prerequisite: 315 and 355 each with a grade of *C* or better.

447-3 Introduction to Graph Theory. (Same as Mathematics 447.) Introduction to theory of graphs, digraphs, and networks and applications to electrical systems and computer science. Topics include blocks and cutpoints, Eulerian graphs, trees, cycle and cocycle spaces, planarity and Kuratowski's Theorem, connectivity and Menger's Theorem, Hamiltonian graphs, colorability and Heawood's Theorem, flows in networks and Ford-Fulkerson Theorem, critical path analysis. Prerequisite: Mathematics 349 or consent of instructor.

449-3 Introduction to Combinatorics. (Same as Mathematics 449.) An introduction to combinatorial mathematics with computing applications. Topics include selections and arrangements, generating functions, recursion, inclusion and exclusion, coding theory, block designs. Prerequisite: Mathematics 349 or consent of instructor.

451-3 Theory of Computing. The fundamental concepts of the theory of computation including finite state acceptors, formal grammars, Turing machines and recursive functions. The relationship between grammars and machines with emphasis on regular expressions and context-free languages. Prerequisite: 311 and 355 each with a grade of *C* or better or graduate standing.

455-3 Design and Analysis of Computer Algorithms. An extensive treatment of the design, analysis and complexity of algorithms. Lower bound arguments, divide-and-conquer techniques, greedy algorithms, dynamic programming, graph theoretic algorithms, PRAM algorithms, and NP-completeness and approximation algorithms. Pre-

requisite: 355 with a grade of *C* or better or graduate standing.

464-6 (3, 3) Numerical Analysis. (Same as Mathematics 475.) An introduction to the theory and practice of computation with digital computers. Topics include the solution of nonlinear equations, interpolation and approximation, solution of systems of linear equations, numerical integration, solution of ordinary differential equations, computation of eigenvalues and eigenvectors and solution of partial differential equations. Prerequisite: (a) Mathematics 221 and 250 and Computer Science 202 or equivalent programming proficiency; (b) Mathematics 305 and Computer Science 464a.

471-3 Introduction to Optimization Techniques. (Same as Mathematics 471.) Nature of optimization problems. General and special purpose methods of optimization, such as linear programming, classical optimization, separable programming, integer programming and dynamic programming. Prerequisite: 202 and Mathematics 221 and 250.

472-3 Linear Programming. (Same as Mathematics 472.) Nature and purpose of the linear programming model. Development of the simplex method. Application of the model to various problems. Duality theory. Transportation. Assignment problem. Postoptimality analysis. Prerequisite: 202 and Mathematics 221.

484-3 User Interface Design and Development. Human-computer interaction and the importance of good interface design. Interface quality and methods of evaluation. Interface design examples and case studies. Prototyping and implementation techniques. Task analysis and the iterative design cycle. Dialogue techniques, basic computer graphics, I/O device, color and sound. Use of at least one interface toolkit and development methodology to complete an interface design project. Prerequisite: 306 with a grade *C* or better.

485-3 Computer Graphics. Study of the devices and techniques for the use of computers in generating graphical displays. Includes display devices, display processing, transformation systems, interactive graphics, 3-dimensional graphics, graphics system design and configuration, low and high level graphics languages and applications. Prerequisite: 306 with a grade of *C* or better; Mathematics 150 and 221 are recommended.

490-1 to 6 (1 to 3 per semester) Readings. Supervised readings in selected subjects. Prerequisite: consent of instructor and department.

491-1 to 4 Special Topics. Selected advanced topics from the various fields of computer science. Prerequisite: consent of instructor.

492-1 to 6 (1 to 3 per semester) Special Problems. Individual projects involving independent work. Prerequisite: consent of department.

493-1 to 4 Seminar. Supervised study. Preparation and presentation of reports. Prerequisite: consent of instructor.

501-3 Advanced Computer Architecture. Hardware and software elements of multiprocessors, multicomputers, pipeline and array machines, data flow architecture and other state-of-the-art architectures. Design principles related to machine structures, interconnection networks,

control software and hardware, data storage and access. Prerequisite: 401.

502-3 Design and Analysis of VLSI Systems. This course covers the theory, technology, fabrication and design of digital integrated circuits as they are commonly used in modern digital computers. The topics covered include techniques for solving problems occurring in VLSI and ULSI layouts, built-in self-testing, design for testability and logic synthesis. The course also treats additional selected advanced topics. Prerequisite: 401 and either 402 or consent of instructor.

503-3 Fault-Tolerant Computing Systems. An introduction to different aspects of fault-tolerance in computing systems. Concurrent checking techniques. Redundancy techniques. Evaluation methods. System-level diagnosis and fault-tolerant VLSI architectures. Prerequisite: 401.

511-3 Formal Specification of Programming Languages. A survey of modeling techniques and meta languages for the formal specification of the syntax and semantics of high-level programming languages. Prerequisite: 311.

512-3 Declarative Programming. An advanced level course on nonprocedural programming with emphasis on logic programming, pure functional programming, and the characteristics of the declarative style common to these two paradigms. Topics include logic programming, functional programming, implementation consideration for each along with current research topics in the areas. Prerequisite: 311.

514-3 Advanced Operating Systems. Rigorous treatment of advanced topics in operating systems. Multiprocessor and distributed operating systems. Highly concurrent machines. Performance analysis of memory management and scheduling algorithms. Security in operating systems. Prerequisite: 414.

516-3 Advanced Compilers. A continuation of 416 including advanced topics in lexical and syntax analysis, error recovery, semantic analysis, code optimization and compiler compilers. Prerequisite: 416.

520-3 Advanced Topics in Parallel & Distributed Computing. An advanced treatment of parallel and distributed computing; review of hardware and software considerations for parallel computation; development and analysis of parallel algorithms (with particular attention to the communication and synchronization costs associated with parallel algorithms); effect of granularity on performance; a comparison of the parallel and distributed programming paradigms including a detailed study of the central features of each approach; software systems for distributed computing including exposure to one or more distributed programming environments; the direction of parallel computing as suggested by recent, high level parallel languages; parallelizing serial programs; parallelizing compilers; future directions of parallel and distributed computing systems. The course will include a student project. Prerequisite: 420.

530-3 Advanced Data Base System. A detailed treatment of advanced topics in data base systems including, but not limited or restricted to, relational database theory, query optimization, recovery techniques, concurrency control, dis-

tributed database systems, security and integrity and database machines. Prerequisite: 430.

532-3 to 6 Topics in Information Systems. A detailed study of two or three topics relevant to information systems. Topics may include but are not limited to sorting, searching, information retrieval and automatic text processing, database security and encryption, distributed databases and data communication. Prerequisite: 430 and consent of instructor.

536-3 Artificial Intelligence II. Theorem proving, the Resolution Principle, strategies, and achievements. Program verification. Natural language processing. Other selected topics. Prerequisite: 436.

553-3 Formal Languages and Automata. The Chomsky hierarchy of formal grammars and the corresponding classes of automata. Turing machines and basic concepts of computability. Recursive and recursively enumerable languages. Closure properties. Undecidable problems about Turing machines and context-free languages. Deterministic context-free languages and the construction of LR parsers. Prerequisite: 451.

555-3 Computability and Complexity. Turing machines and other models of computation. Computable functions. Church's thesis. Solvable and unsolvable problems. Introduction to complexity theory including the classes P and NP. Polynomial time approximation algorithms for NP-complete problems. Prerequisite: 451.

564-1 to 12 Advanced Topics in Numerical Analysis. (Same as Mathematics 572.) Selected advanced topics in Numerical Analysis chosen from such areas as: approximation theory; numerical solution of initial value problems; numerical solution of boundary value problems; numerical linear algebra; numerical methods of optimization; functional analytic methods. Prerequisite: consent of instructor.

570-3 to 9 per topic (3,3,3) Topics in Operations Research. (Same as Mathematics 570.) (a) Netflows. Builds on network and generalized network models for the transportation, transshipment, assignment, shortest path, maximal flow. Prerequisite: 472 or Mathematics 472. (b) Advanced computer simulation. Review of GPSS. Advanced topics in GPSS. Generation of random variates. Validation, parametric, and nonparametric tests. Design of experiments, optimization, parameter tuning. Analysis of variance, spectral analysis, and variance reduction. Prerequisite: 470 and Mathematics 480 or 483. (c) Large scale linear programming. Advanced L.P. techniques for sparse matrices and reinversion routines. Prerequisite: 472 or Mathematics 472. (d) Nonlinear programming. Integer programming with branch and bound and cutting plane methods for solving integer programming problems. Basic dynamic programming with emphasis on the methods and applications. Prerequisite: 472 or Mathematics 472.

585-3 Advanced Topics in Computer Graphics. Study of computer graphics for realistic image synthesis. Object modeling and associated data structures. Advanced rendering techniques such as raytracing and radiosity. Efficiency considerations. Image composition and compression. Current advances and research problems in realistic computer graphics. Prerequisite: 485.

586-3 Pattern Recognition and Image Processing. An introduction to the area of computer vision for the purpose of restoration, segmentation, encoding, analysis and recognition of pictures. Topics include: image transforms, edge detection, smoothing, filtering, pseudo-coloring, syntactic methods in scene analysis, parametric decision theory, non-parametric decision theory, linear discriminant functions, parameter estimation, supervised learning and unsupervised learning. Prerequisite: 220 and Mathematics 380 or consent of instructor.

590-1 to 9 Readings. Supervised readings in selected subjects. Graded *S/U* only. Prerequisite: consent of instructor and department.

591-1 to 9 (1 to 3 per topic) Special Topics. Selected advanced topics from the various fields of computer science.

593-1 to 4 Seminar. Preparation and presentation of reports. Graded *S/U* only. Prerequisite: consent of instructor.

599-1 to 5 Thesis. Minimum of three hours to be counted toward a master's degree. Prerequisite: consent of department.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Creative Writing

See English for program description.

Curriculum and Instruction

E-mail: msmusic@siu.edu

COLLEGE OF EDUCATION

Aikman, Arthur L., Professor, *Emeritus*, Ph.D., Southern Illinois University at Carbondale, 1965; 1964.

Barrette, Pierre P., Associate Professor, Ed.D., University of Massachusetts, 1971; 1978.

Bauner, Ruth E., Associate Professor, *Emerita*, Ph.D., Southern Illinois University at Carbondale, 1978; 1956.

Becker, Jerry P., Professor, Ph.D., Stanford University, 1979; 1967.

Bedient, Douglas, Professor, Ph.D., Southern Illinois University at Carbondale, 1971; 1969.

Boykin, Arsene O., Associate Professor, *Emeritus*, Ed.D., University of Illinois, 1964; 1972.

Butts, Gordon K., Professor, *Emeritus*, Ed.D., Indiana University, 1956; 1950.

Campbell, James A., Associate Professor, Ph.D., Ohio State University, 1978; 1989.

Casey, John P., Professor, *Emeritus*, Ed.D., Indiana University, 1963; 1964.

Copenhaver, Ron, Associate Professor, Ed.D., Indiana University, 1979; 1978.

Coscarelli, William, Professor, Ph.D., Indiana University, 1977; 1986.

Cox, Dorothy, Assistant Professor, *Emerita*, Ph.D., Southern Illinois University at Carbondale, 1976; 1965.

Dale, Doris C., Professor, *Emerita*, D.L.S., Columbia University, 1968; 1969.

Dixon, Billy G., Associate Professor and *Chair*, Ph.D., Southern Illinois University at Carbondale, 1967; 1961.

Eddleman, E. Jacqueline, Associate Professor, *Emerita*, Ph.D., Southern Illinois University at Carbondale, 1970; 1969.

Erickson, Lawrence, Professor, Ph.D., University of Wisconsin, 1972; 1984.

Gilbert, Sharon L., Associate Professor, Ph.D., Ohio State University, 1988; 1988.

Harrington, Mary-Margaret, Assistant Professor, Ed.D., Peabody College of Vanderbilt University, 1995; 1995.

Hill, Margaret K., Professor, *Emerita*, Ed.D., Boston University, 1948; 1965.

Hungerford, Harold R., Professor, *Emeritus*, Ph.D., Southern Illinois University at Carbondale, 1970; 1965.

Jackson, James, Associate Professor, Ph.D., University of Wisconsin, 1976; 1976.

Jackson, Michael, Associate Professor, Ed.D., University of Florida, 1971; 1971.

Jones, Dan R., Associate Professor, Ed.D., Indiana University, 1978; 1978.

Karmos, Ann, Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1975; 1975.

Killian, Joyce, Professor, Ph.D., Pennsylvania State University, 1980; 1981.

Lamb, Morris L., Associate Professor, *Emeritus*, Ed.D., University of Oklahoma, 1970; 1970.

Leming, James, Professor, Ph.D., University of Wisconsin, 1973; 1977.

Lindberg, Dormalee H., Professor, Ed.D., University of Missouri-Columbia, 1969; 1969.

Lumpe, Andrew, Assistant Professor, Ph.D., Kansas State University, 1992; 1996.

Malone, Willis E., Professor, *Emeritus*, Ph.D., Ohio State University, 1950; 1939.

Matthias, Margaret, Professor, *Emerita*, Ph.D., Southern Illinois University at Carbondale, 1972; 1969.

McIntyre, D. John, Professor, E.D., Syracuse University, 1977; 1977.

Mees, John D., Professor, *Emeritus*, Ed.D., Indiana University, 1950; 1946.

Moore, Eryn E., Assistant Professor, *Emerita*, Ph.D., Southern Illinois University at Carbondale, 1976; 1968.

Nelson, Joann N., Assistant Professor, *Emerita*, Ph.D., University of Illinois, 1980; 1982.

Norris, William, Associate Professor, *Emeritus*, Ed.D., Indiana University, 1973; 1977.

Pearlman, Susan F., Associate Professor, Ph.D., University of Missouri-Columbia, 1987; 1989.

Post, Donna M., Associate Professor, Ph.D., Pennsylvania State University, 1990; 1990.

Pultorak, Edward G., Associate Professor, Ph.D., Indiana University, 1988; 1988.

Quisenberry, James D., Associate Professor, *Emeritus*, Ph.D., Indiana University, 1972; 1971.

Quisenberry, Nancy L., Professor, Ed.D., Indiana University, 1971; 1971.

Randolph, Victor, Professor, *Emeritus*, Ph.D., George Peabody College for Teachers, 1942; 1933.

Seiferth, Berniece B., Professor, *Emerita*, Ed.D., University of Missouri, 1955; 1955.

Shepherd, Terry R., Associate Professor, Ph.D., University of Illinois, 1971; 1971.

Shrock, Sharon A., Associate Professor, Ph.D., Indiana University, 1978; 1984.

Sloan, Fred A., Professor, *Emeritus*, Ed.D., George Peabody College for Teachers, 1959; 1968.

Smith, Lynn C., Associate Professor, Ph.D., University of Georgia, 1984; 1984.

Solliday, Michael, Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1975; 1967.

Volk, Gertrude, Associate Professor, Ph.D., Southern Illinois University, 1983; 1987.

Waggoner, Jan E., Associate Professor, Ed.D., Memphis State University, 1990; 1990.

Wise, Kevin C., Associate Professor, Ed.D., University of Georgia, 1983; 1986.

The Department of Curriculum and Instruction offers graduate programs leading to the Master of Science in Education and the Doctor of Philosophy in Education degrees. Within the programs, the student may select a specialty area from one of the following: curriculum and instruction, early childhood, elementary education, gifted and talented education, middle level education, instructional development, instructional technology, mathematics education, reading and language studies, science and environmental education, secondary education, social studies education, and teacher leadership.

Students may also seek State of Illinois endorsement as middle level educators or K-12 reading specialists (Document I). These endorsement opportunities are available as a part of the Curriculum and Instruction specialty areas. Endorsement is arranged through the state and determined by a transcript analysis.

Admission

The applicant must complete the applications for admission to both the Graduate School and the department. General requirements for admission to graduate programs are described in Chapter 1 of this catalog. A selection and review committee screens the applicant on the basis of prior undergraduate and graduate work, grade point average, standardized test scores, work experience, and letters of recommendation, if needed. The committee may possibly recommend admission for a student with some deficiency if, in its opinion, the student shows unusual professional promise.

Application materials may be obtained by addressing a request to: Coordinator of Graduate Studies, Department of Curriculum and Instruction, Southern Illinois University at Carbondale, Carbondale, IL 62901-4610. Specific information may be obtained by calling 618-536-2441.

A non-refundable application fee of \$20.00 must be submitted with the application. Attach your cashier's check or money order, payable to Southern Illinois University, to the top of the application form. Do not send cash. Only cashier's checks or money orders payable to United States banks are acceptable.

Master of Science in Education Degree

The Master of Science in Education degree in Curriculum and Instruction requires the completion of a minimum of 32 or 36 hours of course work, depending on the research requirement selected. At least 15 of the required semester hours must be at the 500 level and taken at SIUC. The student must also meet Curriculum and Instruction core course requirements, research requirements, and specialty area requirements. No more than 11 semester hours of credit earned at

another NCATE-accredited college or university may be accepted toward this degree.

Each candidate's program is planned in consultation with a faculty adviser from the specialty area selected by the student, with consideration for the student's interests, experience, and specialty area. Unclassified graduate students are advised to consult with the department chair concerning admission to the master's program.

A student desiring teacher certification (preschool, elementary, secondary, or K–12) must be admitted to the Teacher Education Program and must follow the teacher certification entitlement process established by SIUC in conjunction with the Illinois State Board of Education.

Several areas of study offer coursework designed to meet certification or endorsement requirements set by the Illinois State Board of Education. Consultation with an adviser and a carefully determined program of study can lead to the desired certification or endorsement.

Admission and Retention. Admission to the master's program requires a 2.7 gpa for the last 60 hours of the bachelor's degree as well as the recommendation of the specialty area faculty. A TOEFL score of at least 550 is also required for international students. Students must maintain an overall 3.0 graduate GPA to be retained in the master's program. The progress of each student is reviewed periodically. Students who do not make satisfactory progress, or who violate the regulations of the department, college, or university, may be dropped from the program.

Program Requirements. The Master of Science in Education degree in Curriculum and Instruction requires a nine semester hour professional core and specialty area courses (12 to 15 semester hours), and a culminating research activity. The professional core consists of C&I 500, Research Methods in Education; C&I 503, Introduction to the Curriculum; and C&I 504, Systematic Approaches to Instruction. All professional core courses must be completed with a grade of C or better, and an overall grade point average of 3.0 must be obtained for the professional core. The specialty area program consists of either 23 semester hours of coursework including a thesis or 27 semester hours of coursework. The minimum number of required semester hours is 32 for students completing a thesis or 36 for students completing the coursework only option.

Doctor of Philosophy in Education Degree

The Doctor of Philosophy in Education degree with a concentration in Curriculum and Instruction is designed for teachers and other educational personnel who seek to improve their performance in general and specialized areas in either the public schools or the private sector. This program is designed for students who desire positions requiring advanced preparation at the highest level with emphasis on theories of curriculum and instruction and in-depth preparation in research. For example, this program is oriented toward students who aspire to positions with institutions of higher education, state departments of education in the United States, ministries of education in foreign countries, educational sections of human service agencies, business and industry, and public schools.

Admission. In addition to the application for admission to the Graduate School, the applicant must also complete the departmental application for admission to the concentration and the related specialty area. A selection and review committee screens the applicant on the basis of prior graduate work, grade point average, standardized test scores (Miller Analogies Test or Graduate Record Examination), research ability, work experience, and letters of recommendation. The TOEFL score is required for international students. The selection committee

recommends admission of the student only if the specialty area has an appropriate sponsor for the applicant and if a faculty member who is qualified to direct dissertations agrees to serve as chair of the student's doctoral committee.

The admissions committee may possibly recommend a student for admission who shows some deviation from departmental standards if, in the committee's opinion, the student shows unusual professional promise.

Retention. Any prospective doctoral candidate with a grade point average of less than 3.25 and 20 semester hours of doctoral work will not be allowed to continue in the program and will not be re-admitted at a later date. Students must accumulate an overall grade point average of 3.50 for all doctoral work to qualify to take the preliminary examination.

Prior to the completion of 30 semester hours of course work, students meet with their major professors to determine whether or not to continue as doctoral students. Such matters as grade point average, progress in the program, course completion, motivation, and general academic scholarship skills in writing and research are considered. A report is then made to the doctoral committee and the department chair. Students who are not making satisfactory progress or who violate the regulations of the department, college, or university, may be dropped from the program.

Program Requirements. The concentration in Curriculum and Instruction has both College of Education and departmental requirements. A minimum of 64 semester hours beyond the master's degree is required. The College of Education professional core of 8 semester hours consists of EDUC 590, Doctoral Seminar in Cultural Foundations of Education and EDUC 591, Doctoral Seminar in Behavioral Foundations of Education.

The Curriculum and Instruction requirements include a core of nine semester hours; at least 23 semester hours in the selected specialty area; research tools usually totaling 8 semester hours or the equivalent (hours for research tools are not counted in the total of 64 semester hours); and a minimum of 24 semester hours of dissertation. An internship of 2 to 8 semester hours is highly recommended. Courses comprising specialty area hours other than the core courses are determined by the student and the doctoral committee. The professional core of courses in the Curriculum and Instruction concentration includes: C&I 582, Advanced Research Methods in Education; C&I 583, Instructional Theory, Principles, and Practices; and C&I 584, Curriculum Theory, Foundations, and Principles. All professional core courses must be completed with a grade of C or better, and an overall grade point average of 3.0 must be obtained for the professional core.

Research Requirements. Research tools are selected on the basis of their appropriateness for the area of concentration, specialization, and type of dissertation research. At least one research tool, as outlined by the College of Education is selected by the doctoral committee in cooperation with the graduate student. The 8 options available are: quantitative methods, historical methods, foreign language methods, philosophical methods, qualitative methods, symbolic methods, and evaluative methods.

Preliminary Examination. The preparation and direction of the preliminary examination are the responsibility of the specialty faculty and the student's doctoral committee. Concepts related to curriculum, instruction, and research/evaluation will be integrated into the preliminary examination. Additional oral and written examinations may be required by the student's doctoral committee.

The examination will be offered 3 times a year: Wednesday, Thursday, and Friday of the fifth week of each term. A student may take the examination no more than 3 times.

Prospectus, Dissertation, and Final Oral Examination. Students may not register for more than 6 dissertation hours until they have been advanced to candidacy. Having been admitted to candidacy, students submit prospectuses to their doctoral committees for approval. The dissertation must show high attainment in an independent original, scholarly, and creative effort. A student's dissertation will be circulated to members of the doctoral committee at least 3 weeks in advance of the proposed defense.

The Department of Curriculum and Instruction requires an oral examination conducted by the doctoral committee. Oral examinations are open to all interested observers. Notice of the time and place of the examination and the abstract of the dissertation are circulated throughout the department and the University.

Courses (CI)

400-3 Simulation and Gaming. Analyzes the role of simulation and gaming in instruction, the availability of commercial games, board games, simulation devices and computer games and preparation of teacher-made games and simulations.

402-3 The Study of Cultural Diversity in Education and Family Services. The student examines origins, characteristics of behavior, learning patterns, family constellations and lifestyles of the diverse cultural groups in our community, state and nation. Students will identify their own cultural background and biases; recognize diversity resulting from ethnic origin, gender, age or disability; and experience ways of learning about cultures other than their own that promote constructive communication and integration into all aspects of schooling, teaching and family services.

404-3 Infant Development. Current theories and knowledge concerning growth and development of infants with related laboratory field experiences. Prerequisite: 237 or Psychology 301 or equivalent.

405-4 Methodologies For Group Care of Infants and Toddlers. Application of theories of development of children up to age 3 in a child-centered environment. Development of competencies and skills needed by early childhood professionals. Two hour seminar and four hour practicum required. Prerequisite: 318 and 404.

407-3 to 9 (3 per topic) Diagnostic Teaching Strategies for Classroom Teachers. Diagnostic instruments and teaching techniques with an emphasis on understanding and teaching students underachieving in the areas of (c) Language arts, (e) Mathematics, and (f) Reading. Prerequisite: 423 for (c), 315 for (e), 312 for (f) and/or consent of instructor.

409-3 Creative Teaching. To assist pre- and in-service teachers in acquiring methods and materials that will improve instruction in the public school classroom, with special attention to the characteristics and needs of students. Prerequisite: Education 315.

410-2 Creative Writing in the Public School. Techniques of encouraging creative writings in the schools.

412-3 to 15 (3 per topic) Improvement of Instruction in Early Childhood Education (Preschool-Grade 3). Examines recent findings, current practices and materials used in early childhood education in the fields of (c) Language arts, (d) Science, (e) Mathematics, (f) Reading and (g) Social studies. Prerequisite: specialized methods course for the field of study selected by the student.

413-3 Language Development of the Young Child, 0-8 Years. The normal language development and communication skills of the young child will be the focus of this course; attention will be given to an integrated, holistic philosophy toward development and learning in young children ages 0-8; specifically focusing upon social and environmental influences on the development of language and literacy, students will observe, listen, record and analyze samples of young children's communication.

415-3 Modern Approaches to Teaching Middle School Mathematics (Grades 4-8). Examines current mathematics materials and teaching approaches. Hands-on experience with a multitude of teaching aids including microcomputers and problem solving materials. Student exchange of ideas and discussion of activities for classroom use. Prerequisite: 315 or consent of instructor and an overall gpa of 2.5.

417-3 Administration of Early Childhood and Family Programs. Planning and organizing programs for pre-school or residential facilities, including budgeting, staffing, programming and evaluation. Prerequisite: 318.

418-3 History and Philosophy of Early Childhood Education. A survey of the history and philosophies of early childhood education with implication for current program practices. Students' analysis of their personal philosophy of early childhood education. Prerequisite: senior or graduate standing; 318; or consent of instructor for graduate students.

419-3 Child, Family and Community Involvement. The course is designed to provide students with the knowledge and skills needed to work successfully with parents and parent groups in individual and community settings. The focus will be on strengthening adult-child relationships

and parent-staff relationships in home, school and community settings. Parent involvement in early childhood programs and parent education will be stressed. Prerequisite: 227 and 318; or consent of instructor for non-early childhood majors and/or graduate students.

420-3 Teaching the Adult Functional Illiterate. The emphasis in the course will be on understanding the problems of the individual whose literacy level does not permit full participation in the economic, social and civic opportunities available to the majority of citizens. Prerequisite: permission of instructor.

423-3 Teaching Elementary School English Language Arts. Oral and written communication processes with emphasis on the structure and process of the English language arts in the elementary school. Specific attention to the fundamentals of speaking English, writing, spelling and listening. Study of learning materials, specialized equipment and resources. Prerequisite: English 101, 102, Speech Communication 152 or 153 or equivalent, and a 2.5 overall gpa.

424-3 Teaching Elementary School Social Studies. Emphasis on the structure and process of teaching social studies in the elementary school setting. Specific attention to the fundamentals of developing social studies objectives, planning units, developing a general teaching model, organizing the curriculum and evaluating behavioral change. Study of learning materials, specialized equipment and resources. Prerequisite: Completion of two of the following: Political Science 114, Psychology 102, History 110, Education 315, overall gpa of 2.5.

426-3 An Introduction to Teaching Elementary School Science. Content and methods of elementary school sciences, grades K-8. Emphasis on the materials and strategies for using both traditional and modern techniques of science education. One or more field trips. Prerequisite: junior standing and an overall gpa of 2.5.

427-4 Science Process and Concepts for Teachers of Grades N-8. (Same as Botany 462.) Specifically designed to develop those cognitive processes and concepts needed by elementary school teachers in the teaching of modern science programs. Lecture three hours per week, laboratory two hours per week. One or two additional field trips required.

428-3 Inquiry Skills for Teaching Junior and Senior High School Science. The major focus will be the application of inquiry skills as used in all areas of science instruction at the junior and senior high school levels; students will be expected to demonstrate mastery of basic and integrated science process skills through conducting and reporting results of science investigations.

435-3 Literature for Children. Studies types of literature; analysis of literary qualities; selection and presentation of books and other media for children; and, integration of literature in preschool, elementary and library settings. Prerequisite: junior standing, a minimum of 6 hours of college-level English and an overall gpa of 2.5.

437-3 Instructional Technology in Training Programs in Business and Industry. Examines the role that performance and instructional technology plays in current training practices in business and industry. The organization, staffing,

budgeting and evaluation of training and development departments is presented. The kinds of performance problems typically encountered by corporate training departments are addressed. Field trips are expected.

441-3 Multicultural Literature for Children. Identification, selection and evaluation of books and audiovisual materials dealing with various cultural groups such as African Americans, Asian Americans, Native Americans, Hispanic Americans and European Americans. Prerequisite: 435 or consent of instructor.

445-3 Literature for Young Adults. The selection and use of books and other educational media for students in the junior and senior high school.

452-3 Small Format Video Production in Education. An introduction to small format black-and-white and color video equipment in educational settings. Emphasis is on understanding the role of video as an instructional and informational tool and on the principles of design that determine instructional video's effectiveness.

455-3 Design and Development of Self-Instruction Systems. Introduction to the theory and practice of self-instruction systems with a particular emphasis on the creation of instruction for mastery. Various self-instruction systems are reviewed and procedures for designing, developing and evaluating these systems are discussed. Includes planning a teaching unit and creating a self-instruction package for the unit.

458-3 Classroom Teaching with Television. Classroom utilization of open and closed circuit television. Emphasis is placed on the changed role of the classroom teacher who uses television. Evaluation of programming, technicalities of ETV and definition of responsibilities are included. Demonstration and a tour of production facilities are provided.

461-3 Content Literacy Strategies. For middle grade teachers who desire strategies for helping students comprehend content encountered in narrative and expository text. Materials, lesson plans and teaching strategies to help middle grade students move from basic to more advanced reading, writing, studying and learning skills are featured. Prerequisite: 312 or 512.

462-3 Middle and Junior High School Programs. Focuses on the development of middle and junior high school curriculum and the identification of instructional activities which relate to the early adolescent. Emphasis is placed on development of advisory activities, developmentally appropriate teaching strategies, interdisciplinary unit planning, teaming, and technologies and materials appropriate for teaching early adolescents, ages 10-14. Prerequisite: Education 310, 315 or consent of instructor.

463-3 Meeting in Social and Emotional Needs of Gifted Children. Deals with strategies for meeting the social and emotional needs of gifted children in the classroom. In particular, this course focuses on low-incidence gifted students, including underachievers, minorities and females. The course will not only cover particular curriculum and instruction strategies designed for this population but also will emphasize strategies for teachers to be more facilitative in assisting these students to accept and realize their potential. Prerequisite: 467 or consent of instructor.

464-2 Student Activities. Analysis of extra-class activities and programs in public schools with a focus on the status, trends, organization, administration and problems.

465-3 Advanced Teaching Methods. The focus is on a variety of teaching methods and strategies which are appropriate for secondary and/or post-secondary educators. Both individual and group methods are emphasized.

467-3 Methods and Materials in the Education of the Gifted. Content focuses on the most appropriate instructional strategies and materials to be utilized with the gifted. Time spent practicing teaching models, designing materials and developing teaching units. Emphasis placed on techniques for individualizing instruction for the gifted and talented students.

468-3 Science Methods for Junior and Senior High Schools. A performance-based approach to instructional skills common to teaching natural science at the junior and senior high school levels. Three class hours and one micro teaching laboratory hour per week. Prerequisite: Education 315 or consent of instructor.

469-3 Teaching Social Studies in the Secondary School. Emphasis is placed upon instructional strategies and curricular designs in social studies at the junior and senior high school levels. Prerequisite: 315 or consent of the instructor.

473-3 Teaching in Middle Level Schools. Designed to acquaint students with the issues of teaching young adolescents and the unique role teachers must play as interdisciplinary team members, advisors and resource persons to connect schools and communities. Information from current research, area specialists and exemplary practitioners will be used to extend appropriate teaching strategies and supplement background knowledge on special topics related to social, emotional and physical development as it relates to the curricula. Attention is given to the development of classroom resource files for interdisciplinary and advisory programs. Prerequisite: 462, Education 310, 315 or permission of the instructor.

480-3 Introduction to Computer Based Education. Introduction to microcomputers and their uses in the classroom, including computer evolution, languages and authoring systems, instructional modalities, word processing, instructional management and software evaluation. Utility functions and basic commands in programming are also introduced.

481-3 Instructional Applications of Mainframe Computers. Design, development and programming of computer-assisted instructional materials using interactive, timesharing computer systems. Study of lesson design and programming, including branching and program flow, display techniques, response judging, teaching strategies, organization and style.

482-3 Instructional Internet Telecommunications. An introduction to the use of the Internet for instruction. Emphasis is placed upon examining the emerging use of Internet based resources and the role of the teacher in preparing to integrate network based learning activities in the classroom. Additional emphasis is placed on identifying skills needed by learners for involvement

with network resources. A variety of selected commercial and non-commercial computer based networks linked to the Internet are examined.

483-6 (3,3) Instructional Applications for Microcomputers. A study of the development and use of microcomputers systems in educational settings. Emphasis is upon the characteristics, capabilities, applications and implications of microcomputers and microcomputer lessons, with case studies of their integration into the teaching, learning process.

484-3 Multimedia Presentation Systems. Provides learners with skills in designing, developing and conducting classroom based multimedia presentations that involve computer and other electronic delivery systems including videodiscs and CDROMS. Emphasis is placed upon identifying major activities that contribute to effective multimedia presentations regardless of computing software or visual delivery system employed.

486-3 Instructional Authoring Systems. Designed to give students experience using authoring systems, languages and utilities for the design, production and integration of computer assisted instruction into educational settings. Tools will include Superpilot, Author and various commercial and consortium authoring tools. Prerequisite: 480 or consent of instructor.

487-3 Microcomputer Applications for Teachers. Laboratory instruction in the use of the microcomputer and software applications representative of those used by the teacher or education specialist in educational settings. An emphasis is placed upon developing skills used by teachers or education specialists which enhance and facilitate the education process.

495-2 to 8 Field Experience. Supervised learning experiences in settings for children and families and public agencies. Prerequisite: 318, 319, 405 and consent of instructor.

496-2 to 6 (2 to 4 per semester) Field Study Abroad. Orientation and study before travel, readings, reports and planned travel. Includes visits to cultural and educational institutions. Maximum credit hours in any term is 4.

498-1 to 15 (1 to 3 per topic) Workshops in Education. Critical evaluation of innovative programs and practices. Acquaints teachers within a single school system or in a closely associated cluster of school systems with the philosophical and psychological considerations and methods of implementation of new programs and practices in each of the following areas: (a) Curriculum, (b) Supervision for instructional improvement, (c) Language arts, (d) Science, (e) Mathematics, (f) Reading, (g) Social studies, (h) Early childhood education, (i) Elementary education, (j) The middle school, (k) Secondary education, (l) School library media, (m) Instruction, (o) Environmental education, (p) Children's literature, (q) Family studies, (r) Computer based education, (s) Gifted and talented education, and (t) Teacher education. Maximum of six hours toward a Master's degree. Prerequisite: consent of instructor.

500-3 Introduction to Research Methods in Education. An introduction to research methodology as it is applied in carrying out educational studies. Basic skills of planning, executing and reporting educational research will be studied

and applied, with the construction of a research proposal as a term project.

501-3 Improving School Reading Programs. For teachers, reading specialists, instructional leaders. Current issues, trends, practices in improving school reading programs at all levels. Special emphasis on school based management, teachers as change agents, curriculum evaluation, staff development and roles of school personnel. Participants assess existing programs and develop improvement plans. Prerequisite: 512, 513 or 561.

503-3 Introduction to the Curriculum. Deals with the nature, purposes and functions of curriculum planning and development; curriculum design and organizations; curriculum implementation and maintenance; and curriculum evaluation as each component relates to the total curriculum.

504-3 Systematic Approaches to Instruction. Gives graduate students an opportunity to investigate, discuss and apply systematic approaches to instruction. Special emphasis is given to that element of the instructional system which allows for the integration of instructional media into the process.

506-3 Professional Services for Diverse Family Structures. Case analysis of different family structures through seminar teams. Each team will be responsible for analysis of the interaction of the family structure and the economic, nutritional, and socializing activities carried out within the family-household. Role and sources of assistance through current programs will be included. Prerequisite: consent of instructor.

507-3 Impact of Public Intervention on Family Life. An analysis of implications of pending and existing legislation as it relates to the economic, nutritional and interactive aspects of the family treated as a system. Prerequisite: consent of instructor.

508-3 Systematic Observation and Analysis of Instruction. Students will learn to use conferencing techniques and to construct and use valid and reliable systematic observation instruments to provide the basis for analysis and feedback about classroom instruction.

509-3 Foundations of Environmental Education. Designed specifically to provide teachers, administrators and curriculum specialists with the knowledge and skills necessary to implement environmental education strategies in both elementary and middle schools. Includes work in ecological foundations, programs currently in use, unit designs, methods and research. One or two field trips may be required.

510-3 Values Education Curriculum. Alternative views of the impact of schooling on children's values will be explored. Current curricular approaches to moral education will be examined with special emphasis given to values clarification and the cognitive-developmental approach of Lawrence Kohlberg. Psychological and philosophical assumptions underlying the major approaches to moral education will be critically examined.

511-3 Seminar in Psychology of Elementary School Subjects. Psychological principles of learning theories as applied to the mastery of materials used in elementary and early childhood

education school subjects. Emphasis is placed on implications of theories of learning for curriculum development and instruction.

512-3 Reading in the Elementary School. First course in the reading sequence. Survey of the reading process. Introduction to factors affecting the reading process, the common core of skills, teaching strategies, materials and research.

513-3 Emergent Literacy. A study of early literacy. Explores the foundations of family literacy as the basis for continued development of reading and writing in kindergarten and the primary grades.

514-3 The Pre-School Child. Growth of the child from birth to six years with emphasis on the various aspects of growth and the interrelationships.

515-3 Advanced Remediation in Mathematics. Strategies for the design of prescribed systematic instruction for correcting identified mathematics difficulties. Experience in designing and preparing materials for corrective purposes. Prerequisite: 407e or consent of instructor.

516-3 Teaching Mathematics in the Elementary School. Master's degree level course which acquaints the student with approaches to teaching, development of curriculum materials and authoritative positions on the mathematics of grades K-8. Emphasis on teaching aids, problem solving and recent developments at this level. Prerequisite: 315 or consent of instructor.

517-3 Early Childhood Programs: Organization and Administration. Presents an overview of the organization and administration of programs for children ages three to eight with experiences in planning for operating and administering such programs. Prerequisite: 316, 518 or consent of instructor.

518-3 Early Childhood Curriculum and Methods. A survey of current problems and practices in early childhood education for children from three to eight years of age, with emphasis on reading in current research literature. Prerequisite: consent of the instructor.

519-3 Early Child Development Through Home and Preschool. The normal health development of children as it takes place in the home and is promoted by the curriculum of early childhood facilities. Prerequisite: Early childhood graduate students in curriculum and instruction who have completed all core courses.

521-4 Advanced Diagnostic Teaching of Reading. Emphasizes diagnostic teaching strategies that teachers and reading specialists employ when dealing with under achievement in reading. Students use informal and formal tests, observation and trial lessons to select instructional materials and activities appropriate to different reading/writing problems. Each student tutors persons while being supervised in the Clinical Center. Prerequisite: 512 or 513 or 561, 407f and consent of instructor.

523-3 Language Arts in the Elementary School. The practical bearing of investigation and theory on the improvement of current practices in the teaching of the language arts other than reading. Attention given to evaluation of teaching materials in these areas. Prerequisite: 423.

524-3 Teaching the Social Studies in the Elementary School. A study of theory and practices of teaching and developing programs in elementary school social studies. Particular attention to be given to trends and issues in social studies. Various social studies models will be examined and evaluated for practical use. Students must demonstrate behaviorally the competencies and skills related to successful performance in the teaching of social studies.

525-3 Applications of Microcomputers to Mathematics Education. Emphasis placed on using the microcomputer as a tool in problem solving. Instruction in programming in Pascal and operating the Apple microcomputer with special attention to practical use of materials in the mathematics classroom and exploration of various other uses of the microcomputer.

526-3 Problems in Elementary School Science Education. Emphasis upon identifying problems and trends within elementary school science education and planning for research in this field. Prerequisite: 426.

527-3 Advanced Family Studies. A study of factors that promote satisfactions with the immediate family; planning and preparing teaching units, and source materials in this field.

528-3 Methods for Teaching Mathematics in the Preschool and Early Childhood Grades (Pre K-3). Acquaints the student with the learning characteristics of children and teaching methods at grades pre K-3. Emphasis on concrete manipulative teaching aids, learning readiness and diagnosis of learning difficulties. Prerequisite: 315 or consent of instructor.

529-3 Modern Approaches to Teaching Secondary School Mathematics. (Same as Mathematics 511.) Topics will include problem solving, applications of mathematics and teaching proofs in secondary school mathematics. Practical classroom use of materials will also be emphasized. Prerequisite: consent of instructor.

530-3 Teaching Problem Solving in School Mathematics (Grades K-8-8). Designed to acquaint teachers with problem solving processes and how to integrate problem solving into their teaching. Emphasis is placed on teaching the process of problem solving. Prerequisite: graduate standing or consent of adviser.

531-3 The Elementary School Curriculum. An introductory course in curriculum designed to assist teachers and administrators in making operational decisions in elementary education which are based on knowledge of foundations of elementary education, organization of learning experiences, research in specialized areas, materials and methods, instructional programming and evaluation. Students are required to exhibit curriculum competencies through the creation of products and through demonstration of skill.

532-3 Courseware Design and Analysis. The analysis of principles and strategies employed in the design of computer based courseware and computer based training materials. Emphasis upon examining educational, social and psychological learning principles and the assumptions used by authors of computer software in the design of K-12 software and computer based training materials.

533-3 Instructional Leadership in Elementary Education. A study of research and related literature concerning various instructional leadership styles and behaviors. Major attentions given to such behaviors as they apply to the local school and the individual classroom situation.

534-3 Organization of the Elementary School. An analysis of types of elementary school organizations with special attention to influence of school organization upon the educational program. Application of research findings to selection and use of materials of instruction. Special consideration to classroom teacher's professional problems.

535-3 Reading and Language Arts Research Seminar. Students survey current research in Reading and Language studies and present a research paper to the seminar participants. Prerequisite: 500, nine hours coursework in reading and language arts, and consent of instructor.

540-3 Mass Communication in Education. The communication theories of recognized authorities in the field will be studied. These theories will be applied to the use of mass media in education. Radio, television, comic books, newspapers, magazines and motion pictures will be discussed.

551-3 Survey of Research and Developments in Educational Media. Survey of research, research techniques, needed research and new developments and programs in educational media. Prerequisite: consent of instructor.

553-3 Instructional Development. Intended for media specialists and instructional developers, this course applies current research and technology to the solution of instructional problems. The student is guided through the systematic process of identifying instructional problems, specifying objectives, analyzing tasks and learners, organizing resources, specifying methods and media and assessing outcomes. The role of the instructional developer as a helping professional will also be examined. Prerequisite: 504.

554-3 Utilization of Educational Media. The utilization of print and nonprint materials in instructional implementation and curriculum development. Structured for teachers, media directors, administrators and instructional designers. The increasing role of technological advances in education is stressed as they relate to learning theory and curriculum development.

555-3 Visual Communication. How to communicate with pictures in the classroom, the design of still and motion pictures, pictures used in teaching perception and the place of pictures in advertising and communication.

556-3 Learning Discovery Systems in the Computerized Classroom. Survey and use of learning discovery systems for microcomputers, especially LOGO. Course includes microcomputer operation, software utilization, program evaluation, creation and use of micro worlds in the classroom and cross-curriculum applications. Prerequisite: 480 or consent of instructor.

557-3 Task Analysis. Builds competence in applying the most current task and content analysis techniques used to make explicit the components of complex human performances and knowledge. Includes learning hierarchy analysis, information processing analysis, path analysis, job task analysis, skills analysis, fault tree analysis, concept

analysis, knowledge engineering, matrix analysis, and pattern noting. Prerequisite: 504 or consent of instructor.

560-3 Instructional Television. The field of educational broadcasting is explored, with special emphasis on public and school television. History and philosophy are included. Problems of programming and their effect on society are studied. The relationship between broadcasting and the viewing public is investigated, and the responsibility of each is established. Emphasis is also placed upon principles of ITV administration and inservice training.

561-3 Reading and Learning Content and Technical Text. For secondary and college teachers, and others who desire strategies to help students and workers learn from texts. Special emphasis is on how to help others improve their ability to comprehend, study and use texts and other print material encountered in secondary school and the workplace.

564-3 Curriculum Development for Gifted Students. Presentations related to the knowledge and decision-making required to develop curriculum for gifted students, including philosophy, goals and objectives; designing and sequencing activities; curriculum models for gifted students; evaluation and modification of curriculum. Emphasis is placed on the development of curriculum for gifted students to be used in schools.

566-3 Instructional Strategies for Problem Solving. The focus is on developing those teaching strategies which will foster and enhance problem solving skills and heuristic thinking. Representative of these teaching skills would be inductive and deductive approaches, discovery and inquiry techniques, and questioning strategies.

569-3 Principles and Trends in Secondary School Social Studies Education. An evaluation and study of social studies trends and practices as they are related to curriculum, organization and instruction at the junior and senior high school and community college levels.

571-3 Secondary School Curriculum. An introductory course designed to explore the nature and development of the curriculum at the secondary school level. Historical perspective and foundations of curriculum are examined. Functional applications to the public secondary schools are emphasized.

573-3 Perspectives on the Future and Its Schools. Deals with the future development of education and social trends which will influence that development. Emphasis is placed upon alternative models of education and their social bases.

575-3 Critical Issues in Instructional Supervision. Students will examine the history, nature and evolution of supervision for instructional improvement. Students will be introduced to concepts, theory and research findings from many fields of study that have implications for today's supervisory process. Supervisory assumptions and practices will be examined in light of current knowledge of teaching effectiveness.

576-3 Critical Issues in Teacher Education. Students will examine critical issues, problems, and trends in teacher education. Emphasis is placed on strategies for clarifying the issues, solving the problems and examining the possible impact of the trends.

577-3 Seminar in International Mathematics in Education. Deals with goals, contents, teaching methods, teacher training, curriculum development and research literature on mathematics education at the international level. Prerequisite: graduate standing or consent of adviser.

578-3 Advanced Study of Mathematics Education. Study of the practical and theoretical development of mathematics curricula and instruction, and viewing mathematics curricula and instruction from philosophical and psychological perspectives. Prerequisite: advanced graduate study or consent of adviser.

580-3 Current Trends in Education. Trends, issues, problems in education related to the student, program, school organization, staff, material and media, the school building, and the process of innovation and change.

582-3 Advanced Research Methods in Education. The study and application of advanced skills used in planning, executing, reporting and utilizing educational research. Prerequisite: 500 or evidence of equivalent research competencies.

583-3 Instructional Theory, Principles, and Practices. Presentation of conceptual formulations and skills concerning instructional theory and principles; foundations of instruction; instructional systems and models; delivery processes (logistics), systems, and maintenance of quality control; and evaluation of teachers and students.

584-3 Curriculum Theory, Foundations, and Principles. The course will emphasize the study of the perspectives on curriculum theory that have guided the development of curriculum practice in the United States. Students will critically examine these perspectives and utilize them to develop and defend positions on contemporary curriculum issues.

585-1 to 15 (1 to 3 per semester) Topical Seminar. A graduate level seminar that involves the study of special problems and related research associated with practical educational situations. Problems available for critiquing and analyzing are the following: (a) Curriculum, (b) Supervision for instructional improvement, (c) Language arts, (d) Science, (e) Mathematics, (f) Reading, (g) Social studies, (h) Early Childhood education, (i) Elementary education, (j) The Middle school, (k) Secondary education, (l) School library media, (m) Instruction, (n) Educational technology, (o) Environmental education, (p) Children's literature, and (q) Family studies, (r) Computer based education, (s) Gifted and talented education, (t) Teacher education. Maximum of six hours toward a Master's degree. Prerequisite: consent of instructor.

586-3 Curriculum Design and Development. Presentations concerning educational planning and curricular decision-making relating to curriculum: aims, goals, and objectives; nature of knowledge, disciplines, and subjects; curriculum structures: sequence and scope; substantive structural models; content and activity selection, product analysis and production; evaluation; and curriculum modification and change.

587-3 Curriculum Implementation and Evaluation. Attention is given to preparing the curriculum specialist to use appropriate techniques and skills to put curriculum programs into prac-

tice and to assess the effectiveness of such programs in terms of a wide range of variables which indicate success or need for curricular modification.

589-3 The Work of the Director of Curriculum and Instruction. The role of the director of curriculum and instruction is the focus of this course. Such topics as the background, current status, and tasks and functions of the position are examined. Additionally, such broad areas of the director's role as needs assessment, program planning and evaluation, and in-service education planning are covered. Prerequisite: 586 or 587 or consent of instructor.

590-1 to 15 (1 to 3 per topic) Independent Readings. Directed readings in literature and research in one of the following areas: (a) Curriculum, (b) Supervision for instructional improvement, (c) Language arts, (d) Science, (e) Mathematics, (f) Reading, (g) Social studies, (h) Early childhood, (i) Elementary education, (j) Middle school, (k) Secondary education, (m) Instruction, (n) Educational technology, (o) Environmental education, (p) Children's literature, (q) Family studies, (r) Computer based education, (s) Gifted and talented education, and (t) Teacher education. Maximum of four hours toward a Master's degree. Prerequisite: consent of instructor.

593-1 to 15 (1 to 3 per topic) Individual Research in Education. The selection, investigation and writing of a research topic under the personal supervision of a member of the departmental graduate staff, in one of the following areas: (a) Curriculum, (b) Supervision for instructional improvement, (c) Language arts, (d) Science, (e) Mathematics, (f) Reading, (g) Social studies, (h) Early childhood, (i) Elementary education, (j) Middle school, (k) Secondary education, (m) Instruction, (n) Educational Technology, (o) Environmental education, (p) Children's literature, (q) Family studies, (r) Computer based education, (s) Gifted and talented education, and (t) Teacher education. Maximum of three hours counted toward a Master's degree. Prerequisite: consent of instructor.

594-(2 to 9 per topic) Practicum. For Master's degree students: professional consultation, teaching demonstration, practical application of advanced theory, work with clinical cases, or program development implementation, and evaluation in school systems, community colleges, or

universities. In addition, may involve reading and research directed to special problems involved in on-site situations. Practicum is available in the following areas: (a) Curriculum, (b) Supervision for instructional improvement, (c) Language arts, (d) Science, (e) Mathematics, (f) Reading, (g) Social studies, (h) Early childhood, (i) Elementary education, (j) Middle school, (k) Secondary education, (m) Instruction, (n) Educational technology, (o) Environmental education, (p) Children's literature, (q) Family studies, (r) Computer based education, (s) Gifted and talented education, and (t) Teacher education. A Maximum of nine hours credit may be applied toward a Master's degree. Prerequisite: consent of instructor.

595-(2 to 8 per topic) Internship. Culminating experience for Ph.D. or specialist degree students. Students engage in specialized service areas either in their own or a cooperating school or school system or university. Weekly on-campus or on-site seminar will be held with the intern supervisor. Internship areas are: (a) Curriculum, (b) Supervision for instructional improvement, (c) Language arts, (d) Science, (e) Mathematics, (f) Reading, (g) Social studies, (h) Early childhood, (i) Elementary education, (j) Middle school, (k) Secondary education, (m) Instruction, (n) Educational media, (o) Environmental education, (p) Children's literature, (q) Family studies, (r) Computer based education, (s) Gifted and talented education, and (t) Teacher education. A maximum of eight hours credit may be applied toward a Ph.D. or specialist degree. Prerequisite: consent of instructor.

599-1 to 6 Thesis. Minimum of three hours to be counted toward a Master's degree. Prerequisite: admission to Master's degree program.

600-1 to 32 (1 to 12 per semester) Dissertation. Minimum of 24 hours for the Doctor of Philosophy degree.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Economics

E-mail: nascar@siu.edu

COLLEGE OF LIBERAL ARTS

Chau, Nancy, Assistant Professor, Ph.D., Johns Hopkins University, 1995; 1995. Economics development, international economics.

Cribari-Neto, Francisco, Assistant Professor, Ph.D., University of Illinois, 1994; 1994. Econometrics, macroeconomics.

Dibooglu, Selahattin, Assistant Professor, Ph.D., Iowa State University, 1993; 1993. International economics.

Ellis, Robert J., Jr., Associate Professor, *Emeritus*, Ph.D., University of Virginia, 1966; 1962.

Edelman, Milton, Professor, *Emeritus*, Ph.D., University of Illinois, 1951; 1950.

Färe, Rolf, Professor, Docent, University of Lund, Sweden, 1976; 1978. Microeconomic theory, mathematical economics.

Foran, Terry G., Associate Professor, Ph.D., Pennsylvania State University, 1970; 1969. Labor economics, monetary theory.

Grabowski, Richard, Professor, Ph.D., University of Utah, 1977; 1979. Economic development, international economics.

Grosskopf, Shawna, Professor, Ph.D., Syracuse University, 1977; 1977. Public finance, labor economics.

Laumas, G. S., Professor, Ph.D., Wayne State University, 1966; 1990. Macroeconomics, monetary economics.

Layer, Robert G., Professor, *Emeritus*, Ph.D., Harvard University, 1952; 1955.

Mitchell, Thomas M., Associate Professor, Ph.D., Brown University, 1985; 1983. Microeconomic theory; international trade.

Myers, John G., Professor, *Emeritus*, Ph.D., Columbia University, 1961; 1977.

Primont, Daniel, Professor and *Chair*, Ph.D., University of California, Santa Barbara, 1970; 1978. Microeconomic theory, mathematical economics, econometrics.

Sharma, Subhash C., Professor, Ph.D., University of Kentucky, 1983; 1983. Econometrics, statistics.

Trescott, Paul B., Professor, *Emeritus*, Ph.D., Princeton University, 1954; 1976. Monetary theory, economic development.

The Department of Economics offers graduate programs that lead to both master's and doctoral degrees. The master's degree is designed to be a twelve- to sixteen-month program in which the student takes courses in theory as well as an applied specialization. The doctoral program is built around a core of courses in microeconomics and macroeconomics and allows the student to specialize in two fields. The coursework towards the doctoral degree is expected to take three years and the writing of a dissertation one year.

Admission

The overall scholastic record and potential of the applicant for admission is more important than prior preparation in specific areas of economics. While undergraduate specialization in economics is desirable, the program is open to students whose undergraduate specialization has been in other fields. However, if the student has not had intermediate level microeconomics, macroeconomics, and statistics, remedial work may be required before admission to the department.

Application forms must be submitted to the Department of Economics. Application materials, as well as additional information, may be obtained from: Director of Graduate Studies, Department of Economics, Southern Illinois University at Carbondale, Carbondale, IL 62901-4515. Phone 618-536-7746.

A non-refundable application fee of \$20.00 must be submitted with either the pre-application or the application. Attach your check or money order, payable to Southern Illinois University, to the top of the application or pre-application form. Do not send cash. Only checks or money orders payable to United States banks will be accepted.

All applicants should take the aptitude portion of the Graduate Record Examination. Information on testing dates and places may be obtained by writing to Educational Testing Service, Princeton, New Jersey 08540. Scores should be sent to Southern Illinois University at Carbondale marked "Attention: Department of Economics." All exam scores must be received before admission.

Evaluations of applicants by the department are based on information from the application form, GRE scores, transcripts, and other information.

Applicants not admitted to the Department of Economics who meet the Graduate School requirements may register for remedial courses as unclassified students. Such persons may be considered for admission to the Department of Economics at a later date, based on their performance in such remedial courses. This option is not available for international students.

Foreign applicants whose native language is not English must take the Test of English as a Foreign Language (TOEFL). The Department of Economics requires that the applicant score 550 or above for admission to the graduate program. The TOEFL must be taken no more than 24 months prior to the date when admission is sought. For information concerning TOEFL testing dates and locations, write to Educational Testing Service, Princeton, New Jersey 08540.

Entry into Ph.D. Program. A student with a master's degree must meet Graduate School admission requirements with a graduate grade point average of 3.25 (A = 4.0) or better. A student with a bachelor's degree must meet Graduate School admission requirements with an undergraduate grade point average of 2.7 or better. After meeting these requirements the bachelor's degree student will be initially admitted as a master's student. Upon passing the qualifying exam, taken after the first year of graduate study, the student will be given entry into the doctoral program. Application for entry should be made to the director of graduate studies in the Department of Economics.

Entry into the Master's Degree Program. The master's degree program is intended to serve as a terminal degree. A student with a bachelor's degree must meet Graduate School admissions requirements with a grade point average of 2.7. Application materials are available from the director of graduate studies in the Department of Economics.

Requirements for the Master's Degree

The master's degree prepares students for positions in government and business and for teaching at the junior college level. The general requirements for the Master's degree may be conveniently classed under two broad headings, course and hour requirements and research requirements.

Course and Hour Requirements. Those students who plan to receive the Master's degree as a terminal degree are required to have the following courses:

Economics 465 Mathematical Economics I

Economics 463 Applied Econometrics

Economics 540a Microeconomic Theory I

Economics 541a Macroeconomic Theory I

Each master's student must take at least one graduate director-approved, two-course specialization. In addition, each master's student must accumulate a minimum total of 30 graduate-level semester hours approved by the director of graduate studies. Of this minimum, 21 hours must be in Economics courses, excluding Economics 408, 440, 441, 443, 507, and 590, and 15 must be in 500-level courses.

Any student who earns six semester hours of C or below in Economics courses taken for graduate credit is subject to dismissal from the graduate program in economics. A 3.0 GPA in 400- and 500-level economics courses excluding Economics 408, 436, 440, 441, 501, 502, 510, 525, and 598. Only 400- and 500-level courses may count toward the master's degree. Graduate students in economics cannot take Economics 408, 440, 441, or 443 for credit toward a degree in economics.

Research Requirements

A Master of Arts degree will be awarded upon completion of a Master's thesis, and the course and hour requirements. The thesis shall be supervised by a committee of at least three members of the graduate faculty and may be counted for 6 semester hours of credit as Economics 599. (Thus the thesis constitutes 6 of the required 30 semester hours.) Two copies of the approved thesis must be presented to the Graduate School at least three weeks prior to the date of graduation, to be bound and shelved in the library. One copy of the thesis is to be submitted to the Department of Economics.

A Master of Science degree will be awarded upon completion of a research paper and the course and hour requirements. The research paper is counted as three hours of credit as Economics 598. One copy is to be submitted to the Graduate School at least three weeks prior to the date of graduation, and one copy is

to be submitted to the Department of Economics. Under this option, the student must take an additional graduate-level course for 3 semester hours.

Doctor of Philosophy Degree

The Ph.D. degree prepares students for teaching and research positions in the academic world, for positions such as senior economist in private industry and consulting firms, and for government positions requiring advanced economic training.

Course Requirements and Qualifying Exam. In the student's first year of graduate work he/she will be required to take the following courses:

Economics 541a Macroeconomic Theory I
Economics 541b Macroeconomic Theory II
Economics 540a Microeconomic Theory I
Economics 540b Microeconomic Theory II
Economics 465 Mathematical Economics I
Economics 511 Mathematical Economics II

At the end of the first year (June) the student will take a qualifying examination in microeconomic and macroeconomic theory. The student will be allowed at most two attempts at passing the qualifying exam.

Fields of Specialization. The student is required to pass examinations in two specialized areas in economics after completion of the appropriate coursework for credit and with the prior consent of the director of graduate studies. The Department of Economics offers the following fields of specialization: economic development, international economics, monetary theory and policy, applied microeconomics, advanced economic theory, and finance. The first field exam will normally be taken at the end of the second year and the second field exam at the end of the third year. The student will be allowed to take a field exam at most two times.

Other Required Courses. Students are required to pass either Economics 450 (History of Economic Thought) or 420 (History of American Growth in the Twentieth Century). In addition, students are required to pass the following courses:

Economics 540c Microeconomic Theory III
Economics 541c Macroeconomic Theory III
Economics 567a Econometrics I
Economics 567b Econometrics II
Economics 567c Econometrics III

Dissertation

Upon completion of the coursework and passing of the exams discussed above, the student will then be admitted to candidacy for the Ph.D. This will normally occur after the third year of work. Following this, the candidate, in consultation with his/her dissertation chairperson, will form a dissertation committee and develop a proposal. After the proposal is approved, the student must complete a dissertation based on original research and successfully defend the dissertation before the faculty.

Courses (ECON)

408-3 Economics and Business Statistics II. A continuation of 308 which includes the construction, interpretation and use of economic data. Topics include correlation, regression, decision-making, index numbers, time series analysis, forecasting and other statistical techniques used in analyzing economic and business data. This

course will not count as graduate credit for economics majors. Prerequisite: 308 or equivalent.

416-3 Money and Banking II. An examination of the principle institutions whose joint actions determine the supply of money in the United States economy. Emphasis is placed on the commercial bank operating as a firm within the Fed-

eral Reserve System. Policy issues are examined for the regulation of the banking industry as well as for the control of the domestic money supply. Prerequisite: 315 or 340 or 341 or consent of instructor.

419-3 Latin American Economic Development. Special attention to contemporary policy issues and alternative strategies for development. Among the topics included are inflation and financial reform, international trade and economic integration, foreign investment and agrarian reform. Prerequisite: 322 or 340 or 341 or consent of instructor.

420-3 The History of American Growth in the 20th Century. An analytical survey of American growth in the present century. Concentrates on problems associated with the United States' role as a world economic power and changes in economic institutions engendered by rapid technological change and the need to cope with such problems as income distribution, equity, the growing public sector, inflation, unemployment and others. Prerequisite: 340 or 341 or consent of instructor.

429-3 International Trade and Finance. Analysis of the pattern and volume of world trade and capital flows; effects of trade and payments on the domestic economy; problems and methods of adjusting to change in the balance of payments. Prerequisite: 340 and 341 or consent of instructor and Mathematics 140 or 150 or consent of instructor.

431-3 Public Finance II. State and local. Analysis of the economic effects, problems and alternative solutions concerning state and local government expenditures, revenues and debt. Prerequisite: 330 or 340 or 341 or consent of instructor.

436-3 Government and Labor. Influence of government and law on collective bargaining, on the internal operation of unions, and on job discrimination in the public and private sectors. Prerequisite: Political Science 114 and Economics 113 or equivalents or consent of instructor.

440-3 Price, Output and Allocation Theories. A systematic survey of theories of product prices, wage rates, rates of production and resource utilization under conditions of competition, monopolistic competition, oligopoly and monopoly markets. Emphasis is on developing analytical tools useful in the social sciences. Not open to students who have had Economics 340. Prerequisite: 240 or consent of instructor.

441-3 Contemporary Macroeconomic Theory. An examination in the causes of inflation, unemployment, and fluctuations in aggregate economic activity, factors affecting consumption and investment, and the sources of economic growth. Emphasis is on understanding contemporary United States macroeconomic problems and the options for fiscal, monetary and income policies facing the United States government. Not open to students who have had 341. Prerequisite: 241 or consent of instructor.

450-3 History of Economic Thought. An analytical study of the development of economic ideas, with special reference to historical and societal context, central thrust and impact. Such benchmark figures as Smith, Marx, Marshall, Veblen and Keynes are highlighted and major schools of economic thought are identified. Pre-

requisite: 240 and 241 or 113 or consent of instructor.

463-3 Introduction to Applied Econometrics. Applications of statistical tools to specific economic problems. Numerous examples will be examined in order to achieve this goal. Emphasis will be given to model misspecification, non-classical estimation techniques, data analysis and simultaneous equations. Prerequisite: 408 or consent of instructor.

465-3 Mathematical Economics I. A systematic survey of mathematical economics. Application of basic mathematical tools to economic analysis, and a restatement of economic theory in mathematical terms. Prerequisite: 340 or 440 and Mathematics 140, or consent of instructor.

474-3 Antitrust and Regulation. The theory and practice of government policy toward imperfectly competitive markets. Includes such topics as merger policy, unfair trade practices, regulation of natural monopolies, peak load pricing, safety and environmental regulation, and consumer protection. Prerequisite: 340 or 374.

479-3 Problems in Business and Economics. Application of economic theory and tools of analysis to practical business problems. Cost and demand functions, and forecasting are analyzed from a policy standpoint. Prerequisite: 240; 308 or Management 208; Marketing 304; Mathematics 140 or 150, or consent of instructor.

500-3 to 24 (3 per topic) Economics Seminar. A study of a common, general topic in the field of economics with individual reports on special topics. Prerequisite: consent of instructor.

501-1 to 21 Economics Readings. Readings from books and periodicals in economics. Master's degree students limited to a total of six hours. Prerequisite: consent of instructor and chair.

502-1 to 4 Readings in Resource Economics. (See Forestry 590.)

507-1 to 4 (1,1,1,1) Practicum in Undergraduate Teaching. Emphasizes teaching methods, source materials, and preparation of classroom materials. All teaching assistants must enroll. One hour of credit per semester. Graded S/U only.

510-2 Research in Economics: Design, Methodology and Presentation. Systematic approach to economic research. Includes research planning and design, exploration of the various sources of data and most frequently used methodology. The last part of the course is concentrated on techniques for communicating the results of research. Prerequisite: consent of instructor.

511-3 Advanced Mathematical Economics. A continuation of topics in 465 with more emphasis on proofs. Topics include economic applications of integration, differential equations and real analysis. Prerequisite: 465 and Mathematics 211, or consent of the instructor.

512-3 Seminar in Labor Institutions. Multidisciplinary approach to collective bargaining in the private and public sectors, considering industrial relations theory and the economic effects of collective bargaining. Readings and cases. Prerequisite: 310 or equivalent or consent of instructor.

517-3 Monetary Theory and Policy. A survey of contemporary monetary theory and related pol-

icy issues. Prerequisite: 541 or consent of instructor.

518-3 Monetary Theory and Policy II. Contemporary topics in monetary theory and policy, including analysis of the roles of money in inflation and economic growth, and an appraisal of the conduct and impact of monetary policy. Prerequisite: 517 or consent of instructor.

520-6 (3,3) Economic Development Theory and Policy. (a) Classical, neoclassical, and modern contributions to the theory of development; theories of underdevelopment. (b) Basic approaches to economic development; laissez-faire; balanced growth; unbalanced growth, role of government; methods of planning; and foreign aid. Must be taken in a,b, sequence. Prerequisite: consent of instructor.

522-3 Microeconomic Foundations of Labor Markets. The approach is theoretical. Topics include the theory of wage and employment determination, labor mobility, labor market imperfections, the special problems of minority group labor and trade union issues. Prerequisite: 538 or 540b or consent of instructor.

525-4 Seminar in Economics in Geography and Planning. (Same as Geography 522.) Public expenditure criteria based on free-market allocation, public, private, and merit goods and services, and related planning; expenditure criteria based on comprehensive plans; expenditure criteria and planning in the absence of general optimality; multiple objectives, measurement of benefits and costs, shadow prices, choice of techniques in planning; consideration of uncertainty. Critical evaluations of applied work and models of development projects and programs by students. Prerequisite: 422 or consent of instructor.

530-3 Foreign Trade. Emphasis on the advanced theory of international trade, survey of significant literature in international theory. Study of more advanced tools of analysis. Prerequisite: 340 or 440 or consent of instructor.

531-3 International Finance. Application of theory to current international economic developments. Empirical studies. Prerequisite: 329 or consent of instructor.

532-3 Economics of Human Resources. The study of institutions and policies designed to solve manpower problems. Emphasizes such topical areas as unemployment, underemployment, manpower training and development, labor market behavior, vocational education, labor problems of the handicapped, the aged, women, and minority groups, health economics, economics of education and poverty. Prerequisite: consent of instructor.

533-3 Public Finance Theory and Practice. Historical development of public finance theories with analysis of their policy implications. Prerequisite: 330 or consent of instructor.

534-3 Economics of Taxation. This course examines from a theoretical and applied point-of-view, various economic aspects of taxation. Other government revenue sources may also be analyzed such as inter-governmental grants and debt. Emphasis is on application of microeconomic theory to problems in taxation. Usual topics include: equity in taxation, shifting and incidence of taxes, excess burden of taxes, other economic effects of taxes, tax reform, debt. Prerequisite: 330 and 340, or 440, or consent of instructor.

540A-3 Microeconomic Theory I. The course provides the basic theoretical knowledge necessary for microeconomic research in business and government. Prerequisite: 340 or 400 or consent of instructor.

540B-3 Microeconomic Theory II. A contemporary course in partial equilibrium analysis. Topics include the theory of the firm, market structure and the theory of the consumer. The course frequently takes an axiomatic approach; consequently there are many formal statements and proofs of theorems. Prerequisite: 465 and Mathematics 221, or Mathematics 150, 221 and 250 or consent of instructor.

540C-3 Microeconomic Theory III. A contemporary course in general equilibrium analysis. Topics include equilibrium in an exchange economy, equilibrium with production and welfare implications of general equilibrium. The existence and uniqueness of equilibrium and the concept of the core of an economy are studied in detail. Prerequisite: 511, 540b or Mathematics 352, or consent of instructor.

541A-3 Macroeconomic Theory I. The Rigorous development of general equilibrium macroeconomic models to analyze the determination of national income in the context of Classical, Keynesian, Neoclassical and Monetarist economic systems. Also included is the study of key sectoral demand functions. Prerequisite: 341 or 441 or consent of instructor.

541B-3 Macroeconomic Theory II. Continuation of 541A. Analyzes the ideas of New Classical and New Keynesians on the determination of national income. Focuses on the impact of rational expectations and the natural rate hypotheses on the effectiveness of macroeconomic policy. Also included are recent developments in the area of business cycles. Prerequisite: 541a.

541C-3 Macroeconomic Theory III. Recent developments and major issues in contemporary macroeconomic theory. Focuses on incorporating uncertainty, stochastic tools and dynamic analysis into macroeconomic theory. Prerequisite: 541b.

542-6 (3,3) Industrial Organization. (a) Industrial organization I. A study of the variety of forms of competition among firms. Topics include theories of the firm, oligopoly theory, theories of entry, product differentiation and innovation. Prerequisite: 440 and 441. (b) Industrial organization II. A survey of government policy toward industry. Topics include antitrust: mergers, concentration and unfair trade practices, regulation of public utilities, peak load pricing, product, safety and environmental regulation. Prerequisite: 440 and 441.

545-3 Resource Economics. A survey of theoretical and institutional aspects of energy production, distribution, consumption and regulation. Topics covered include cartel theory, history of energy use, theory of resource exhaustion, models of energy demand and supply, past and current policy issues, and environmental protection. Prerequisite: 467 and 440, or consent of instructor.

546-3 Workshop in Resource Economics. A research seminar on topics related to energy production, distribution, consumption and regulation. Meetings will be divided among presentations of research of (a) faculty, (b) students, and (c) outside speakers, offered every semester. Maximum

of three hours toward Master's degree in economics. Prerequisite: 545.

552-3 Seminar in Economic Thought. An exploration of the basic philosophic assumptions which underlie the various types of economic thought with special emphasis upon the historical development of the premises of modern day economic theories. Prerequisite: 450a or 450b or consent of instructor.

566-3 Mathematical Economics II. Linear economic models. Linear programming. Input-output analysis and general equilibrium models. Prerequisite: 340 or 440 or 465 or consent of instructor.

567A-3 Econometrics I. Topics include distribution theory, statistical inference, hypothesis testing and classical linear multiple regression. The emphasis is on both theory and application. Prerequisite: 408, 465 and Mathematics 150, or consent of instructor.

567B-3 Econometrics II. Further topics in the theory and application of single equation econometric models including model specification, data problems, large sample results, non spherical disturbances, heteroscedasticity, autocorrelation and time series analysis. Prerequisite: 567a or consent of instructor.

567C-3 Econometrics III. Topics will include systems of regression equations and simultaneous equation models. Additional topics will be selected by the instructor from the following: models with discrete dependent variables, limited dependent variable model, nonlinear regression model, nonlinear optimization and estimation of stochastic equilibrium models. Prerequisite: 567b or consent of instructor.

570-3 Seminar in Contemporary Microeconomic Theory. An investigation of recent developments and current controversies in economic theory with emphasis on microeconomic problems. Prerequisite: 540b.

571-3 Seminar in Contemporary Macroeconomic Theory. An investigation of recent developments and current controversies in economic theory with emphasis on macroeconomic problems. Prerequisite: 541b or consent of instructor.

575A-3 Econometric Theory I. Topics include: probability theory; asymptotic theory; linear regression; likelihood ratio, Lagrange multiplier, and Wald tests; stochastic processes; ARIMA models; unit root tests, cointegration, spurious

regression, and spurious trend; ARCH models; VAR models; and other topics to be determined by the instructor. Prerequisite: 567b or consent of instructor.

575B-3 Econometric Theory II. Topics include: density estimation methods, nonparametric regression, stochastic frontiers, nonlinear regression models, nonlinear time series models, information matrix tests, generalized method of moments, nonnested hypothesis testing; Bayesian methods, bootstrapping, and other topics to be determined by the instructor. Prerequisite: 575a or consent of instructor.

580A-3 Performance Measurement. Analysis of measurement of efficiency and productivity using frontier techniques. Focuses on theoretical and empirical specification of production frontiers and the evaluation of performance relative to those frontiers. Duality theory is exploited to investigate performance in various economic environments. Prerequisite: 540a and 465, or consent of instructor.

580B-3 Welfare Measurement. A study of the theory and methods of constructing economic measures of price, quantity and other welfare indicators. Prerequisite: 540a, 540b and 465 or consent of instructor.

590-1 to 8 (1 per semester) Seminar in Contemporary Economics. Presentation and discussion of current research in economics. One hour credit per semester. Graded *S/U* only.

598-1 to 3 Research Paper. Preparation of a research paper for a Master's degree. Prerequisite: consent of instructor.

599-1 to 6 Thesis. Minimum of four hours to be counted toward a Master's degree. Graded *S/U* only.

600-1 to 36 (1 to 16 per semester) Doctoral Dissertation. Hours and credit to be arranged by director of graduate studies. Graded *S/U* only.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Doctoral Program in Education

Faculty in the concentrations listed below participate in this program. Refer to specific concentrations elsewhere in the catalog.

One may pursue a program of study leading to the Doctor of Philosophy degree in education through any of 5 approved concentrations: curriculum and instruction, educational administration, educational psychology, health education, and workforce education and development.

Students must satisfy the requirements of the Graduate School in addition to the College of Education requirements for the Doctor of Philosophy degree in education. General policies pertaining to the Doctor of Philosophy degree in education are enumerated in this section; policies specific to each concentration may be obtained from the appropriate departmental chair.

For program descriptions of Master of Science in Education degrees, the student should review the material listed in this publication in the appropriate departmental section or consult the appropriate department.

Application

Applicants must submit the standard application materials to the department into which they wish to gain admission. A non-refundable application fee of \$20.00 must be submitted with the application. Attach your check or money order, payable to Southern Illinois University, to the top of the application form. Do not send cash. Only checks or money orders payable to United States banks will be accepted. Additional data may be requested by the faculty of the specific concentration. The student is encouraged to contact the appropriate departmental executive officer for specific guidelines.

Admission and Retention

The appropriate department reviews all documents relative to the student and makes a recommendation to the academic affairs committee of the College of Education; this committee makes the final admission recommendation through the dean of the College of Education to the Graduate School. Retention standards beyond minimum Graduate School standards are established by each concentration and are available from the departmental executive officer of the appropriate department.

Advisement

For each student a doctoral committee consisting of a minimum of 5 members is constituted and approved according to procedures described in the *Ph.D. Policies and Procedures Manual of the College of Education*. Copies of the manual can be obtained from the dean of the College of Education. The doctoral committee also serves as the student's dissertation committee.

The program, planned to include all graduate study beyond the master's degree, should be approved at a meeting of the student's committee. The program is then forwarded to the dean of the College of Education for final approval and filing.

Program Requirements

Each doctoral student in education must successfully complete a prescribed core of 8 semester hours in social and philosophical foundations of education (EDUC 590) and in psychological foundations of education (EDUC 591). For each concentration there are also basic courses which should be completed prior to the student taking the preliminary examination. Information about these specific courses can be obtained from the appropriate departmental executive officer.

Research Competencies. The Ph.D. degree in education is a research-oriented degree. As such, it consists of a program of studies and other appropriate experiences designed to facilitate the acquisition of knowledge, attitudes, and skills necessary to conduct systematic intellectual inquiry. This overall aim is accomplished via two major program components: (a) general research competencies, including an understanding of the fundamental nature of approaches to problem solution and an appreciation for the role of research in professional education, are developed through completion of a minimum of 32 semester hours of course work in any of 5 approved concentrations, and (b) specific technical and methodological competencies are developed through completion of individually prescribed research tools. Such tools are selected on the basis of their appropriateness for the area of concentration in which the student is working and their relevance to the student's research interests. Research tools are applied in the process of completing requirements for the doctoral dissertation. A list of approved

research tools for the Ph.D. degree in education is available in the *Ph.D. Policies and Procedures Manual of the College of Education*.

Preliminary Examination. All students in the Ph.D. program in education must take the preliminary examination over areas determined by the student's doctoral committee. In addition, the examination may cover areas specific to a concentration. The examination is offered 3 times a year: Wednesday, Thursday, and Friday of the fifth week of each term.

A student may petition the doctoral committee for permission to take the preliminary examination after successful completion of the research requirement, successful completion of all or most of the course work, and successful completion of the doctoral seminar sequence in education. A student who fails the examination on the initial attempt may take the examination 2 additional times. If at that time the student has not passed the examination, the student is dropped from the program.

Admission to Candidacy. A student may be advanced to candidacy after the student has completed the 2 doctoral seminars, EDUC 590 and 591, fulfilled the residency requirements for the doctoral degree (see degree requirement in Chapter 1), met the research tool requirement, and passed the preliminary examination. The doctoral committee chair should initiate the admission to candidacy forms and forward the forms to the dean of the College of Education. Admission to candidacy is granted by the dean of the Graduate School upon the recommendation of the dean of the College of Education. The doctoral degree may not be conferred less than six months after admission to candidacy, except upon approval of the dean of the Graduate School.

Dissertation. The doctoral committee consists of a chair who is authorized to direct doctoral dissertations and at least 4 others who are authorized to serve on doctoral committees. The committee is appointed by the dean of the Graduate School upon the recommendation of the dean of the College of Education. At least one member of the committee must be from a department other than that of the student and at least one member from a unit outside the College of Education.

In choosing a topic for the dissertation, the candidate should prepare a prospectus for the dissertation and submit the prospectus to the doctoral committee for approval. After the doctoral committee approves the prospectus, the chair of the committee files one copy of the approved prospectus in the office of the dean of the College of Education.

Satisfactory completion of the dissertation requirement includes the passing of an oral examination covering the dissertation and related areas.

Courses (EDUC)

550-1 to 10 Experimental Education. Offered for purposes of testing new and experimental courses and series of courses within the College of Education. Prerequisite: consent of instructor.

590-4 Doctoral Seminar in Cultural Foundations of Education. This seminar is one of two courses required for all students pursuing a doctoral program in the College of Education. The primary objectives are to aid in the development of the Doctoral student's own nature and reflective theory of education; to help students pursue their scholarly activities in relation to the whole field of education; and to make the student aware of the resources of scholarship in other disciplines which might be said to be foundational to educa-

tion. Prerequisite: admission to the Ph.D. program in education.

591-4 Doctoral Seminar in Behavioral Foundations of Education. This seminar is one of two courses required for all students pursuing a doctoral program in the College of Education. The primary objectives are to aid the student in describing the attitudes, assumptions and practices which underlie empirical inquiry; to help the student to recognize the strengths and weaknesses of the various types of research in terms of methodology employed; and to aid the student in identifying and refining a research question and constructing a research design appropriate to answer the research question. Prerequisite: admission to the Ph.D. program in education.

Educational Administration

E-mail: dmibb@siu.edu

COLLEGE OF EDUCATION

Buser, Robert L., Professor, *Emeritus*, Ed.D., Indiana University, 1966; 1967.

Colwell, William, Assistant Professor, Ph.D., University of Illinois at Urbana-Champaign, 1996; 1996.

Dennis, Lawrence J., Professor, *Emeritus*, Ph.D., Southern Illinois University at Carbondale, 1968; 1968.

Dunn, Randy J., Associate Professor, Ed.D., University of Illinois at Urbana-Champaign, 1991; 1995.

Eaton, William E., Professor and *Chair*, Ph.D., Washington University, 1971; 1971.

Evans, John, Associate Professor, *Emeritus*, Ph.D., Southern Illinois University at Carbondale, 1968; 1970.

Goldman, Samuel, Professor, Ph.D., University of Chicago, 1961; 1980.

Hyttén, Kathy, Assistant Professor, Ph.D., University of North Carolina at Chapel Hill, 1996; 1996.

McCadden, Brian M., Assistant Professor, Ph.D., University of North Carolina at Chapel Hill, 1995; 1995.

McKerrow, K. Kelly, Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1986; 1994.

Sharp, William, Associate Professor, Ph.D., Northwestern University, 1978; 1991.

Verduin, John R., Jr., Professor, *Emeritus*, Ph.D., Michigan State University, 1962; 1967.

The Department of Educational Administration and Higher Education offers an approved major in educational administration leading to the Master of Science in Education degree. It also provides courses and instructional personnel for doctoral students who wish to concentrate in educational administration at the doctoral level. All degrees are NCATE approved. Interested applicants should direct inquiries to the admissions clerk of the department.

The Department of Educational Administration and Higher Education works cooperatively with the departments of Curriculum and Instruction, Educational Psychology and Special Education, and Workforce Education and Development in administering the State of Illinois General Administrative Certificate for persons seeking positions as principals or directors of special education or vocational education. A master's degree and two years of public school teaching (or its equivalent), are required for the certificate. Students must make application for the administrative certification program through the department.

A non-refundable application fee of \$20.00 must be submitted with the application. Attach your check or money order, payable to Southern Illinois University, to the top of the application form. Do not send cash. Only checks or money orders payable to United States banks will be accepted.

Master of Science in Education Degree

At the master's level, a concentration in educational administration is offered.

The Master of Science in Education degree in educational administration includes a 36 semester hour core consisting of:

EAHE 500-3 Education Research Methods

EAHE 501-3 and 503-3 Introduction to Educational Administration

EAHE 509-3 School Community Relations

EAHE 523-3 School Finance and Facilities

3 principalship courses (e.g. EAHE 504-3 Adm. and Supervision of the Elementary School, EAHE 505-3 Adm. and Supervision of the Middle School, EAHE 506-3 Adm. and Supervision of the Secondary School)

a curriculum course (e.g. EAHE 511-3 Information Mgmt: Curriculum and Technology)

a social foundations course (e.g. EAHE 536, 538, 540, 542, or 544)

a school law course (e.g. 519); and EAHE 595-3 a. Elementary School Internship; b. Middle School Internship; c. Secondary School Internship.

Students have the option of writing a thesis, a research paper, or enrolling in EAHE 547-3, Evaluating Educational Research, in lieu of a thesis or research paper.

Doctor of Philosophy Degree in Education

The Department of Educational Administration and Higher Education participates in the doctoral program in education with an approved concentration in educational administration. See the description of the Ph.D. degree in education.

Inquiries regarding application to their programs should be directed to the admissions clerk of the Department of Educational Administration and Higher Education.

Courses (EAHE)

402-1 to 3 Principles of Student Personnel Group Work. Acquaints the student with group work possibilities and functions in higher education.

500-3 Educational Research Methods. Introduction to educational research and the variant methodologies used in conducting studies within institutional settings. Both quantitative and qualitative approaches will be examined.

501-3 Educational Administration: Tasks and Processes. An examination of the administrative tasks and processes dealing with interaction within the school organization and between the organization and its environment. Components will be viewed for their essential interrelatedness as well as their unique aspects. Emphasis will be placed upon the processes by which change is brought about in dealing with decision making, programming, communication, motivating, controlling and evaluating.

503-3 Educational Administration: Introduction to Theory. Examination of the various administrative tasks in light of established organizational models and leadership theories. The student will be introduced to a variety of theories, models, and concepts that have pertinence to the field of educational administration. Emphasis will be placed upon the methods of theory construction and the development of a theoretical orientation to the solution of administrative problems. The course draws heavily upon research done in the behavioral sciences.

504-3 The Administration and Supervision of the Elementary School. A critical study of research and writing with implications for the elementary principalship. Designed to meet many of the particular needs of persons interested in becoming elementary principals. Other persons such as teachers, superintendents and staff personnel will gain insight into problems and responsibilities of the elementary principal's role.

505-3 The Administration and Supervision of the Middle School. Reviews the philosophy of the middle school concept and emphasizes the role of the principal in the areas of management, supervision of human resources, program development, the direction of students and the concern for ethical standards of operation.

506-3 The Administration and Supervision of the Secondary School. Deals with problems met specifically by the high school principal. Emphasizes the principal's role in relation to guidance, curriculum, schedule-making, extra-curricular

activities, public relations, budgeting of time, etc.

508-3 Student Development Theories. A study of the major theories of human development as applied to college students with implications for the student affairs specialist.

509-3 School-Community Relations and Development. Practical and theoretical aspects of public relations as applied in general and as applied specifically to educational institutions and efforts. Involved are the practical and theoretical considerations of educational institutions assisting in the further development of the community or communities in which they find themselves.

510-3 Higher Education in the United States. An overview of American higher education in historical and sociological perspectives: its development, scope, characteristics, issues, problems, trends and criticism.

511-3 Information Management: Curriculum and Technology. The course seeks to provide relevant information to students in the area of curriculum for the elementary, middle school and high school. Course content includes topics and student projects which illustrate the principles and practices of effective curriculum administration; the leadership principles required for curriculum change; and the planning skills necessary for the development of technology plans.

513-3 Organization and Administration in Higher Education. Theories and practices in governance of various types of higher education institutions with attention to problems of formal and informal structures, personnel policies, decision making, institutional self-study and societal-governmental relations.

515-3 College Student Development: Operations and Policies. Study of organization, functions, and undergirding principles and policies of student development and the related student personnel services and programs in contemporary colleges and universities including community colleges.

516-3 College Students and College Cultures. Study of the nature of students, the impact of the college on student development, and the nature of the college as a unique social institution. Study of student subcultures and the interaction between students, institutions, and communities.

517-3 The Legal Framework of Education. A study of administrative, judicial, statutory and constitutional laws which have application in American public schools.

518-3 College Teaching. Emphasis is given to teaching and learning styles, the teaching-learning process, specific methods of teaching, strategies to improve teaching, resources available to the classroom teacher, and methods of evaluating teaching. Other topics will include: models of effective teaching behavior, academic freedom and due process. Course also open to teaching assistants from other departments.

519-3 Illinois School Law. A study of administrative, judicial, statutory, and constitutional laws which have application in the Illinois public schools.

520-1 to 12 Current Issues in Educational Administration. An examination of current issues that affect the various administrative levels in educational systems. The issue selected receives intensive treatment and review.

523-3 Introduction to School Finance and Facilities. The function of the principal and supervisor in the improvement of instruction and in curriculum development. Activities, methods and devices for improving the effectiveness of instruction stressed. Prerequisite: 511 or consent of instructor.

524-3 Curriculum Design and Policy. A study of assumptions, materials, methods and evaluation in the designs of various curricula in colleges and universities, with attention to curriculum resources and policy.

526-3 The Community College. A study of the characteristics and functions of the community or junior college in American higher education. Course content aids the student in developing a general understanding of the philosophy, objectives, organization, and operations of this significant institution.

528-3 Finance in Higher Education. A study of financing higher education in American society and related economic aspects. Emphasis is given to sources of funds and management of financing in colleges and universities including budgeting, control, accountability and current trends.

530-3 Historical Research in Education. Seminar designed to explore the literature, methods and possibilities of historical research in education.

535-1 to 14 (1 to 3 each) Higher Education Seminar I. A series of seminars for specialized study of areas of administrative practice and policy. (a) Student personnel group work, (b) Law and higher education, (c) Student financial assistance, (d) Admissions and records, (e) Academic and faculty administration, (f) Current issues in student affairs, (g) Housing, (h) Non-traditional students/non-traditional delivery, (i) Women and higher education, (j) Student center, (k) Selected topic.

536-3 History of Education in the United States. An historical study of the problems of American education.

537-3 The Adult Learner. The focus of study will be adult learners, their motivations, learning styles, needs, goals, life stages, life cycles and developmental patterns. Implications for adult learning will be sought.

538-3 Education and Social Forces. A study of the social forces that shape educational policies in the United States.

540-3 Classics in Education. Primary attention will be given to Plato's *Republic*, Castiglione's *Courtier*, Rousseau's *Emile*, and Dewey's *Experience and Education*. Other authors such as Aristotle, Quintilian, Francis Bacon, Montaigne, John Bunyan, Benjamin Franklin, A. S. Neill, Karl Marx, and B. F. Skinner will receive additional consideration.

542-3 Contrasting Philosophies of Education. An examination of current educational problems and trends in the light of contrasting philosophies of education.

543-3 Professional Negotiations. An investigation of the theory and practice of professional negotiations. Emphasis will be placed on understanding the roles of adversarial negotiations. Use will be made of cases and simulations.

544-3 Education and Culture. A study of the concept of culture and its relation to the process of education.

545-1 to 16 (a through j, 1 to 3 each; s, 1 to 8) Higher Education Seminar II. A series of seminars for scholarly inquiry into significant aspects of higher education. (a) Community college administration, (b) Federal government and higher education, (c) Institutional research, (d) Current issues in higher education, (e) Problems of central administration, (f) Business and fiscal affairs, (g) History of higher education, (h) Sociology of higher education, (j) Adult and continuing education, (s) Selected topic.

547-3 Evaluating Educational Research. Emphasis on development of student skills as critical consumers of research in education. Standards and practices in research are reviewed with attention to evaluating and judging the quality of research reported in professional literature. The focus of the course is on quantitative research, although qualitative research will also be discussed. Prerequisite: 500 or equivalent.

550-3 School Business Administration. A study of the principles and practices governing management of business affairs of a public school system. Included are such topics as revenues, expenditures, accounting, auditing, reporting and applications of electronic data processing as a management tool. Practical experience is given in using the Illinois financial accounting manual as well as other managerial procedures. Detailed study is made of the role of the school business administrator in the local school district.

551-3 Politics of Education. An examination of the political setting of educational administration selected leadership practices, and a general study of leadership theory. This course is open to students in approved sixth-year and doctoral programs only. In addition to educational leadership related to the politics of education, emphasis is given to innovative and contemporary practices of school administration.

553-3 Planning Processes and Policy Development. Surveys issues involved with accountability in education. Explores in some detail various planning models. Examines concepts and strategies in public policy development. Open to approved sixth year specialist and Doctoral students.

554-3 Seminar in Philosophy of Education. An interpretation of modern educational problems and trends in the light of basic philosophical

viewpoints. Excerpts from the leading philosophical writings are used. Prerequisite: 454 or consent of instructor.

555-3 Advanced Educational Administration Theory. An advanced seminar devoted to the study of classical and modern theories concerning the administration of complex organizations. Particular emphasis is placed on organizations as social units that pursue specific goals which they are structured to serve. The major areas of study are organizational goals, organizational structure and organizations and their social environment. Prerequisite: 503 or equivalent.

556-3 The School Superintendent and Board of Education. Focuses on superintendent-school board relationships. It investigates the administrative team's role and functions as they relate to leadership in educational policy making.

557-3 Program Evaluation. This course is designed to enable an administrator to evaluate a school or agency program from inception through implementation, operation and final assessment. An emphasis will be placed upon formal and informal means of formative and summative processes utilizing evaluation diagnostics and instrumentation. Formalized accreditation standards and guidelines will also be examined.

558-3 Personnel Evaluation and Administration. This course will provide the administrator with the concepts, strategies and assessment measures to evaluate and manage personnel in both simple and complex organizational settings.

585-3 Survey Research Methodology. A detailed examination of the methodology of survey research in the social sciences. In addition to the historical and philosophical foundations of social research, the techniques of developing indicators, sample selection, questionnaire construction and data collection by mail, telephone or personal interview will be outlined and practiced. Considerable attention will be directed towards the analysis of survey data using the university mainframe computer and statistical software. Prerequisite: 500 and Educational Psychology 506 (or equivalent) or permission of instructor.

587-3 Naturalistic Research Methodology. An advanced seminar dealing with the foundations, design, application, and implementation of the naturalistic or qualitative method of conducting research. The student is expected to develop a dissertation prospectus or an original research report using the naturalistic method of inquiry. Prerequisite: Doctoral standing or consent of instructor.

588-3 to 6 General Graduate Seminar. Selected topics or problems in cultural foundations of education. Prerequisite: advanced standing and consent of instructor.

589-1 to 3 Doctoral Research Seminar. Limited to doctoral students formulating and preparing research designs for investigation and implementation. Graded *S/U* only. Prerequisite: consent of instructor.

590-1 to 6 Readings. Advanced reading in one of the following areas. (a) Administration, (b) Buildings, (c) Supervision of curriculum, (d) Finance,

(e) School law, (f) Supervision, (g) Comparative education, (h) History of education, (i) Philosophy of education, (j) Sociology of education, (k) Adult and community education, (l) Higher education. Prerequisite: consent of instructor. Graded *S/U* only.

591-1 to 6 Individual Study. Individual inquiry into selected problems or special topics in higher education under supervision of a graduate faculty member. Graded *S/U* only. Prerequisite: consent of instructor.

593-1 to 3 per topic Individual Research. Maximum of six hours toward master's degree. Selection, investigation and writing of a research assignment under the personal supervision of a graduate faculty member in one of the following areas. (a) Administration, (b) Buildings, (c) Supervision of curriculum, (d) Finance, (e) School law, (f) Supervision, (g) Comparative education, (h) History of education, (i) Philosophy of education, (j) Sociology of education, (k) Adult and community education, (l) Higher education. Graded *S/U* only. Prerequisite: consent of instructor.

595-1 to 8 Internship in Educational Administration. (a) Elementary School Internship. (b) Middle School Internship. (c) Secondary School Internship. The internship requires placement in a K-12 school setting. Students seeking State of Illinois Level II Administrative Endorsement will be placed under the supervision of a certified principal or director. Students seeking experience at the pre-school and elementary level should enroll in 595a. The middle school setting is covered in 595b and the high school setting in 595c. Students must check with internship coordinators prior to registration.

596-1 to 6 Independent Investigation. Field study required of each student working for the sixth year specialist degree. Graded *S/U* only.

597-1 to 6 Superintendent Internship. An internship conducted in a central administrative setting for fulfillment of the state of Illinois' Level III Administrative Certificate. Consent of student's adviser is required.

598-1 to 8 Internship in Higher Education. The internship requires placement in a higher education work setting. Supervision is provided by the cooperating teacher/administrator and the degree program coordinator. Students must check with program coordinators prior to registration.

599-1 to 6 Thesis.

600-1 to 36 (1 to 12 per semester) Dissertation. Minimum of 24 hours to be earned for the Doctor of Philosophy degree.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Educational Psychology

E-mail: lviernum@siu.edu

COLLEGE OF EDUCATION

Bardo, Harold R., Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1972; 1968.

Beggs, Donald L., Professor, Ph.D., University of Iowa, 1966; 1966.

Bradley, Richard W., Professor, Ph.D., University of Wisconsin, 1968; 1968.

Brown, Beverly, Associate Professor, Ph.D., University of Iowa, 1974; 1974.

Cody, John J., Professor, *Emeritus*, Ph.D., University of Wisconsin, 1961; 1965.

Cox, Jane, Assistant Professor, Ph.D., Kent State University, 1997; 1996.

Deichmann, John W., Associate Professor, Ph.D., St. Louis University, 1969; 1969.

DeWeese, Harold L., Professor, *Emeritus*, Ed.D., University of Illinois, 1959; 1959.

Dillon-Sumner, Ronna, Professor, Ph.D., University of California, Riverside, 1978; 1978.

Elmore, Patricia B., Professor, Ph.D., Southern Illinois University at Carbondale, 1970; 1967.

Evans, John A. Assistant Professor, Ph.D., University of Illinois, 1996; 1996.

Kelly, Francis J., Professor, Ph.D., University of Texas, 1963; 1965.

Leitner, Dennis W., Associate Professor, Ph.D., University of Maryland, 1975; 1974.

Lewis, Ernest, Professor, Ph.D., Southern Illinois University at Carbondale, 1971; 1970.

Mouw, John T., Professor, *Emeritus*, Ed.D., University of South Dakota, 1968; 1968.

Pohlmann, John T., Professor and *Chair*, Ph.D., Southern Illinois University at Carbondale, 1972; 1971.

Prichard, Karen K., Associate Professor, Ph.D., Kent State University, 1980; 1980.

Snowman, Jack, Professor, Ph.D., Indiana University, 1975; 1975.

Ullery, Elizabeth, Assistant Professor, Ph.D., Auburn University, 1997; 1997.

White, Gordon, Assistant Professor, Ph.D., University of Iowa, 1969; 1971.

White, Lyle, Associate Professor, Ph.D., University of Iowa, 1988; 1989.

Woehlke, Paula L., Professor, Ph.D., Arizona State University, 1973; 1973.

Yates, J. W., Professor, *Emeritus*, Ed.D., University of Missouri-Columbia, 1951; 1964.

The Department of Educational Psychology and Special Education offers graduate studies that lead to the Master of Science and the Ph.D. degrees in educational psychology. In addition, completion of course work and supervised experiences that meet standards for state entitlement and certification of counselors is part of the degree programs. The purposes of these graduate programs are to prepare professional educational psychologists to engage in the practice of their specialization and to pursue research in their areas of interest. Programs are monitored to be in line with standards set forth by the American Association of Counseling and Development, the American Psychological Association, the North Central Association, and the National Council for Accreditation of Teacher Education. The counselor education program is accredited by the Council for the Accreditation of Counseling and Related Educational Programs (CACREP).

Professional experiences and interests of students along with the teaching and research capabilities of the faculty serve as a basis for individualized courses of study. Sufficient latitude in program planning is provided so that students in concert with their adviser and their committee plan programs to capitalize on student interests and faculty capabilities. Human learning and cognition, development, instructional psychology, child and adult counseling, marriage and family counseling, career development, educational measurement and statistics, special education, and research design represent professional and research specialties of the faculty.

Master of Science in Education

Academic experiences leading to the Master of Science in Education degree are provided through concentrations in educational psychology and counselor education. Graduates from these programs are prepared to pursue advanced graduate studies and assume roles as professional counselors or educational psychologists

in schools, colleges, and other agencies that serve the developmental needs of people.

Program Requirements. Core requirements consist of competencies in learning, quantitative methods, and development. Specific course selections to meet the degree program are determined by the students and their advisers with the approval of the department chair.

Completion of a thesis, research paper, or project (1–6 hours) is required to meet the requirements of a master's degree in education. A thesis requires a research format that follows a formal method of inquiry to provide answers to questions of a basic nature to the field. Research papers or projects focus on specific information-gathering procedures or a product that meets a need for specific purposes.

An oral or written comprehensive examination covering course work, thesis, research paper, or project is required before students can be recommended for graduation. The faculty of each concentration determines the specific nature of the examination.

Admission and Retention. Students seeking admission to master's degree studies in the department must apply to and meet requirements for admission to the Graduate School and be approved by the Department of Educational Psychology. Scores from the Graduate Record Examination (GRE), an undergraduate grade point average of 2.7 (A = 4.0) for unconditional admission (students with an undergraduate grade point average of 2.4 may be considered for conditional admission); letters of recommendation, and evidence of successful experience or commitment to the profession are required. Each student application is considered on an individual basis. Professional qualifications, graduate courses taken, and student goals are also considered.

The adviser, along with the faculty of the specialty, is responsible for reviewing student progress each semester. Students are required to maintain a 3.0 grade point average and to be progressing toward their professional goals within the guidelines formulated in the advisement process. Failure to make progress or violations of department, college, or Graduate School regulations may result in dismissal from the program.

Specific information about programs and how to apply may be obtained by calling 618-536-7763 or writing to the chair, Department of Educational Psychology and Special Education, Southern Illinois University at Carbondale, Carbondale, IL 62901-4618.

A non-refundable application fee of \$20.00 must be submitted with the application. Attach your check or money order, payable to Southern Illinois University, to the top of the application form. Do not send cash. Only checks or money orders payable to United States banks will be accepted.

EDUCATIONAL PSYCHOLOGY

The master's degree concentration in educational psychology is a minimum 32-hour program. Students who wish to acquire fundamental knowledge and inquiry skills in human learning and research design are required to write a thesis (6 hours). Students who are more interested in applied positions may elect the research paper or project option.

Graduates from this program have taken positions as teachers, researchers, instructional designers, and evaluators in the military, schools, industry, and other institutions. Others have continued to pursue their education at the Ph.D. level.

COUNSELOR EDUCATION

Students who complete this program also fulfill the requirements of the entitlement program for certification in Illinois. This is a minimum 48-hour CACREP approved program that prepares students to work with children and adults in elementary and secondary schools, higher education, mental health settings, and other agencies or settings. Emphasis is placed on child, adolescent, adult, marriage and family counseling. Programs that focus primarily on handicapped or abnormal populations are centered in other departments in the University.

Students who first pursue the program in educational psychology as a preparation for counseling certification should indicate this intent at the beginning of their program. In this manner, experiences can be planned to better meet the needs of the student.

Doctor of Philosophy Degree in Education

Advanced studies leading to a Ph.D. degree are offered by the Department of Educational Psychology and Special Education. Individualized programs of sequential studies, based on a general core of foundation knowledges, are required for each candidate. Students along with their doctoral committee plan programs related to student background and interests, the professional requirements of the program, and the professional competencies of the faculty.

Faculty in the department provide research and professional competencies in counseling, cognitive development, instructional psychology, educational measurement and statistics, and special education.

Application. Students must apply to the chair, Department of Educational Psychology and Special Education, Southern Illinois University at Carbondale, Carbondale, IL 62901-4618, 618-536-7763. Specific questions about programs and how to apply should be directed to the address identified above or by phone.

Admission and Retention. Applications are reviewed by the department faculty and recommendations forwarded to the College of Education and the Graduate School. Test scores from the Graduate Record Examination are required. A personal interview with a candidate may be required.

The performance of each doctoral candidate is reviewed each semester. Maintenance of 3.0 grade point average and compliance with policies of the department, the college, and Graduate School are also required.

Core Requirements. Students are required to meet core competence in learning, measurement, statistics, research methodology, and effective behavior. Specific courses or other means used to satisfy these areas are determined by the department upon recommendation from the student's doctoral committee. Students are expected to bring to the doctoral program a background of course work and experiences commensurate with a master's degree in educational psychology that includes foundations in psychology, education, and other related areas.

Research, Teaching, and Practicum Experience. Each student is required to demonstrate professional competence through supervised experiences. These experiences include research, teaching, and personal interactions in consulting, psychometric, or counseling situations. It is recommended that doctoral students take an approved internship in their area of professional specialization. Such internships are usually of a year's duration and must be approved by the department.

Preliminary Examinations. All Ph.D. candidates must complete a preliminary examination over their doctoral course work before formal admission to candi-

dacy. The doctoral committee with the concurrence of the department is responsible for the development and evaluation of the preliminary examination.

Doctoral Committees. Students are assigned a doctoral adviser upon admission to the program. Before the end of the first year of doctoral study a doctoral committee is constituted. At this time a new chair may be chosen to head the committee which assists and evaluates students in their program. The committee is also responsible for an oral examination over the completed dissertation and student's general knowledge of the professional field.

Courses (EPSY)

Courses in this department may require the purchase of supplemental materials. Field trips are required for certain courses.

402-3 Basic Statistics. A master's level terminal statistics course. Emphasis on descriptive statistics and graphical representation of data. Includes a brief introduction to hypothesis testing procedure.

412-3 Human Behavior and Mental Health. This course is designed to provide an overview of the factors and conditions in life that tend to affect mental health and the community resources available to address mental health needs. Social, political, economic and professional resources will be examined as they relate to the development, implementation and coordination of mental health services and systems.

418-3 Psychology of the Classroom. Intended to develop interpersonal skills such as values clarification, empathy and listening. Strategies for the resolution of conflicts and reasons for students demonstrating disruptive behavior will be discussed. Role-playing, group processes, concepts and activities in behavior modification, and activities related to concepts of discipline will be examined. Content should be suited to parents, teachers and other professionals.

422-3 Introduction to Individual and Group Assessment. The student will be introduced to the basic testing process and the problems related to individual group assessment and will be expected to choose a project for study and investigation. The project must be related in some way to the role and function of the counselor in different settings. The various types of assessment instruments and the manner in which the data derived therefrom can be employed in consultation.

442-3 Introduction to Community Counseling. To provide an introduction to the foundations, contextual dimensions and program development of community counseling. Prerequisite: graduate standing.

481-1 to 12 Seminar. Conducted by staff members and distinguished guest lecturers on pertinent topics. Prerequisite: consent of instructor and department.

482-1 to 3 Seminar in Marriage and Family Counseling. Seminar will focus on current clinical and research topics in the field of marriage and family counseling and the general issues that emerge from the marriage and family counseling practicum. Prerequisite: 494a or b, 490, concurrent enrollment in 494e and permission of instructor.

490-3 Introduction to Marriage and Family Counseling. Problems and techniques of pre-

marital, marital, divorce, family and family crisis counseling. Counseling individuals singly, in family units and in groups. Prerequisite: 538.

491-1 to 6 Special Research Problem—Individual Study. For majors. Formulating, investigating, and reporting on a problem in the area of applied psychology. Prerequisite: advanced standing and consent of department.

493-3 Counseling Skill Development. Through simulated counseling situations and extensive examination of counseling case studies, counseling skills are examined and practiced.

494A-3 School Counseling Practicum. A combined seminar, laboratory, and field experience representing the central focus of the program in school counseling. Enables the student to practice the role of the counselor under close supervision. Graded *S/U* only. Prerequisite: 493, 538; admitted to counseling program.

494B-3 Counseling Practicum. Practice of counseling skills with different populations in varied settings. The professional setting depends on the student's interest area. Individual and group supervision are provided. Use of tape recorder is required. Graded *S/U* only. Prerequisite: 493, 538, admitted to counseling program.

494C-3 Career Group Practicum. Supervision in the creation and maintenance of small group process for the purpose of career development. Application of theoretical models is stressed concurrently with entry level skills in the facilitation of small groups and career counseling. Graded *S/U* only. Prerequisite: 542, 543, admitted to counseling program.

494E-1 to 6 Practicum in Marriage and Family Counseling. Supervised on-campus counseling experience with couples and families. Supervision will be individual as well as within the context of a therapy team. Graded *S/U* only. Prerequisite: 490, 493, 494a or b, concurrent enrollment in 482 and consent of instructor.

506-4 Inferential Statistics. Covers basic descriptive techniques such as central tendency, measures of variability and graphical presentation of data. In addition, hypothesis testing, analysis of variance, nonparametrics and simple linear prediction will be covered.

507-4 Multiple Regression. The general linear model is presented which allows for hypothesis testing including correlational analysis, analysis of variance and analysis of covariance. Non-linear relationships are presented. Emphasis is placed

on testing the stated research hypotheses. Prerequisite: 506.

508-4 Experimental Design in Educational Research. Strategies of designing research studies and the analysis of data from studies using linear models are examined. Emphasis will be placed on internal and external validity and factors that affect power in variance designs including completely randomized designs, Latin square, repeated measures and analysis of covariance with each of the above designs. Prerequisite: 506 or equivalent.

511-3 Instructional Psychology. Critical review of empirical, methodological and theoretical developments in the experimental study of instructional variables as related to student behavior. Prerequisite: Psychology 407 or equivalent is recommended.

512-3 Life-Span Development. Investigates physical, intellectual and social development throughout the life span. Provides information regarding learner characteristics and transitions. Focus is on applications for education, counseling and related services.

513-3 Psychological Trends in Education. Study of literature from B. F. Skinner, Carl Rogers, Erik Erickson, Abraham Maslow, John Dewey, Laurence Cremin, Jerome Bruner, Haim Ginott, Clark Moustakas, A. S. Neill, John Holt, Charles Silberman, Thomas Gordon, Jean Piaget, Jerome Kagan, Sigmund Freud, etc., to provide the student with knowledge of contemporary psychological trends in education.

515-3 The Psychological Aspects of Instructional Design. Survey of applications of psychology to the design, delivery, and evaluation of instruction for cognitive and effective learning among individuals of differing abilities, including the gifted. Prerequisite: 511.

521-3 Consultation of Schools and Organizational Systems. Surveys the theories and available research on several approaches to consultation with families, schools and other organizational systems. Systemic approaches to consultation are emphasized.

525-3 Cross Cultural Factors Affecting Counseling. Designed to cover special problems of different cultural groups in the counseling process. The influence of culture upon values, beliefs, interests and feelings will be explored as they relate to the rights of the client. Prerequisite: 493 and 538.

530-3 Appraisal in Counseling. Principles and procedures for gathering appraisal and assessment information about people. Theoretical basis for describing and comparing individuals as well as assessing developmental stages and types will be covered. Particular emphasis will be the validity and reliability of data collection methods, interpretation of this information to individuals and procedures for selection of instruments.

531-3 Principles of Measurement. Intended to provide theoretical principles of measurement which are applicable to both teaching and research. Part of the course will be devoted to current issues in measurement and to practical applications to these theoretical principles. Prerequisite: 506.

532-3 Theories of Intelligence. Nature and assessment of intellectual behavior with emphasis

on the historical, theoretical, and developmental aspects of intelligence. Special attention is given to test standardization and interpretation of the Stanford-Binet and Wechsler Scales.

537-3 Counseling Children: Theory, Techniques, and Practice. The foundations and techniques of individual and group counseling with particular emphasis on theories, operational approaches, tools and related procedures. Prerequisite: 493 or concurrent enrollment.

538-3 Theories of Counseling. This course presents an overview of current theories of counseling with a special focus on the philosophical assumptions, key concepts, techniques and practical applications of each approach. Each of the theories will be examined critically such that the student can begin to formulate an integrated personal theory of counseling.

540-3 Issues and Trends in Counseling. Students will examine current problems, issues, and trends with an emphasis on strategies for solving the problems; clarifying the issues and placing them in proper perspective; examining possible ramification of the trends.

542-3 Career Development Procedures and Practices. For pupil personnel workers, teachers, and administrators to give an orientation to theoretical, economic, and informational aspects of career guidance and to provide experience with using career information in counseling and decision making. Obtaining occupational and information materials for use in guidance and teaching.

543-3 Group Theory and Practice. Focuses on the theory, functions, and techniques of group procedures appropriately applied to decision making, problem solving and resolution of conflict. Major emphasis is given to the dynamics of group behavior, the social-psychological interaction of small groups and their applications to group counseling. Dual emphasis is placed upon interpersonal self-understanding and the familiarity with group procedures. Prerequisite: 493.

547-3 Implementation of Counseling Services. Designed to furnish the prospective school counselor with knowledge and competency in planning and implementing a complete and integrated pupil personnel program for public schools. During the semester attention will be given to the parameters of such an integrated program, i.e., the function of a philosophical base; the principles which emerge from the philosophical position; the planning strategies best suited to implementing such a program; the actual recommendations for personnel, facilities, and materials; evaluation techniques and strategies; methods of reporting progress to students, school personnel and the community, and an estimate of the per pupil cost. Prerequisite: experience in school counseling work, advanced standing in the counselor education program or equivalency to either of the above.

551-3 The Supervision of Practicum. Doctoral students will: become familiar with models of counseling supervision; practice supervision with Master's students; and be acquainted with the research in the counselor training and supervision. Individual and group supervision are provided. Tape recording of supervision sessions is required.

562-6 (3,3) Human Development in Education. Theories and research evidence regarding child development and behavior are investigated. These considerations focus upon implications for research and educational practices. (a) Childhood. (b) Adolescent.

567-2 to 9 (2 to 6 per semester) Topical Seminar in Educational Psychology. Contemporary topics and problems in the area of educational psychology. Conceptual and empirical activities. Prerequisite: consent of instructor.

568-3 to 12 (3,3,3,3) Topical Seminar in Counseling. A series of advanced seminars in counseling. Sections a through c are to be taken only once. Section d may be repeated as topics vary. Students may take up to 12 credits only for 568. (a) Professional Orientation. (b) Advanced Theory. (c) Conducting Research. (d) Selected Topics. Prerequisite: admission to Ph.D. program.

570-3 Humanistic and Behavioral Theories in Education. Doctoral students will critically examine major humanistic and behavioral systems; evaluate the research dealing with the systems; and be able to apply the systems to educational problems.

575-4 Philosophical and Historical Issues. Course will explore philosophical and historical issues related to studies in human learning, measurement and statistics, counseling and special education. The course will require participants to make major presentations and prepare scholarly papers. Prerequisite: Admission to doctoral program.

576-4 Research Issues in Educational Psychology. Introduction to research methods and current research issues in the areas of human learning and development, statistics and measurement, counselor education and special education. The course will focus on what is currently known about selected major research issues in each of the above areas and what these findings imply for educational practice. Prerequisite: admission to doctoral program.

580-2 to 29 (3,3,3,3,2,3,3,2 to 6) Doctoral Seminar in Educational Measurement and Statistics. A series of advanced seminars on statistics and measurement. Sections a through h may be taken only once each. Section i may be repeated as topics vary. (a) Advanced regression analysis. (b) Factor analysis. (c) Multivariate methods. (d) Nonparametric methods. (e) Evaluation methods. (f) Experimental design. (g) Advanced measurement theory. (h) Computer applications. (i) Selected topics.

590-3 Family and Systems. This course provides students with advanced study into the philosophical foundations, theoretical orientations, current research and practical applications of selected approaches to marriage and family counseling/therapy. Prerequisite: 490, 494e, 482, consent of instructor; 494e and 482 may be concurrent.

591-3 to 6 Internship in Counseling. For each three credits a supervised internship of 300 clock hours at a site that offers opportunities for indi-

vidual counseling and group work. The internship provides an opportunity for the student to perform a variety of activities that a regular employed staff member would be expected to perform. A minimum of 120 hours of client services with clients is expected with on-site and on-campus supervision. Graded *S/U* only. Prerequisite: 494a or b and 494c.

592-1 to 8 (1 to 6 per semester) Independent Study and Investigation. For advanced graduate students. Topics of interest to the individual student are studied under supervision of a department staff member. Prerequisite: consent of department.

593-1 to 4 Individual Research. For doctoral students in educational psychology. Formulating, investigating, and reporting of research problems in the area of guidance and educational psychology. Prerequisite: consent of department.

594-1 to 6 Advanced Practicum. Primarily for advanced Master's or doctoral students who want to continue developing their counseling skills. Counseling settings are individually arranged, however, they typically follow the 494 practicum experience. Graded *S/U* only.

595-1 to 8 Internship in the Psychology of Teaching. Full- or half-time teaching practice in the management of classroom behavior, and the design, delivery, and evaluation of instruction. Interns will be supervised by University staff. Graded *S/U* only. Prerequisite: consent of department.

596-15 (5 per semester) Internship in School Psychology. The purpose of the internship is to provide an opportunity to integrate the broad range of skills requisite to a position in school psychology. The internship provides the student with a full-year of full-time supervised experience in a pre-approved setting. Enrollment assumes completion of a Master's degree in educational psychology or a related area and all course requirements for the Specialist's degree in educational psychology. Graded *S/U* only.

597-12 (6,6) Doctoral Internship in Counseling. Doctoral or post-doctoral level students will be placed in an appropriate, full-time setting to engage in a variety of counseling services. On-campus and off-campus supervision will be provided by doctorate level counselors. Graded *S/U* only. Prerequisite: 591 and 594.

599-1 to 6 Thesis. Prerequisite: consent of department.

600-1 to 32 (1 to 16 per semester) Dissertation.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Electrical Engineering

E-mail: eeddept@siu.edu

COLLEGE OF ENGINEERING

Botros, Nazeih M., Associate Professor, Ph.D., University of Oklahoma, 1985; 1985. Digital hardware design, digital signal processing, digital instrumentation, neural networks, robot sensing, bioengineering.

Brown, David P., Professor, Ph.D., Michigan State University, 1961; 1983. Active network theory, circuit and system theory, graph theory, matrix theory, large scale networks and systems, signal processing.

Daneshdoost, Morteza, Associate Professor, Ph.D., Drexel University, 1984; 1984. Electric power systems, linear systems and circuits, control systems optimization techniques, expert systems, computer graphics, MMI.

Dhali, Shirshak K., Professor, Ph.D., Texas Tech University, 1984; 1984. Plasma processing, gaseous electronics, lasers, superconductors.

Etienne-Cummings, Ralph, Assistant Professor, Ph.D., University of Pennsylvania, 1994; 1995. Analog and digital VLSI systems for machine perception, biological and artificial computational sensors, visual motion detection and navigation in hardware, image processing and computer vision.

Feiste, Vernold, K., Associate Professor, Ph.D., University of Missouri-Columbia, 1966; 1966. Electric power systems, electrical machines, electric power distribution, distribution automation.

Galanos, Glafkos D., Professor and *Chair*, Ph.D., University of Manchester, England, 1970; 1987. Power systems, HVDC transmission, power electronics systems.

Goben, Charles A., Professor, Ph.D., Iowa State University, 1965; 1980. Physical electronics, surface and interface properties, nuclear and space radiation effects, integrated optics, fiber optics, optical, infrared and microwave surface wave properties.

Gupta, Lalit, Associate Professor, Ph.D., Southern Methodist University, 1986; 1986. Computer vision, pattern recognition, neural networks, digital signal processing.

Harackiewicz, Frances J., Associate Professor, Ph.D., University of Massachusetts-Amherst,

1990; 1989. Electromagnetics, antenna theory and design, microwaves, microstrip phased arrays and anisotropic materials.

Hatziadoniu, Constantine, Associate Professor, Ph.D., West Virginia University, 1987; 1987. Power systems, high voltage DC transmission, power electronics, modeling and simulation of non-linear circuits.

Hu, Chia-Lun John, Professor, Ph.D., University of Colorado, 1966; 1981. Microwaves and applied optics (Fourier optics, holograph, electro-optics), nonlinear and parametric wave systems (phase conjugation), neural networks.

Kagaris, Dimitrios, Assistant Professor, Ph.D., Dartmouth College, 1994; 1995. VLSI Design Automation, digital circuit testing, communication networks.

Manzoul, Mahmoud A., Associate Professor, Ph.D., West Virginia University, 1985; 1985. Fuzzy logic: hardware and applications, digital VLSI systems microprocessors.

Pourboghraat, Farzad, Associate Professor, Ph.D., University of Iowa, 1984; 1984. Systems control, robust and adaptive control, robotics, motion planning and self-organization, neural networks and learning systems.

Rawlings, Charles A., Professor, Ph.D., Southern Illinois University at Carbondale, 1974; 1964. Biomedical engineering, clinical engineering, instrumentation, electronics.

Sayeh, Mohammad R., Associate Professor, Ph.D., Oklahoma State University, 1985; 1986. Neural networks, optical computing, image processing, stochastic modeling, quantum electronics.

Schoen, Alan, Professor, *Emeritus*, Ph.D., University of Illinois, 1958; 1973.

Smith, James G., Professor, Ph.D., *Emeritus*, University of Missouri-Rolla, 1967; 1966.

Viswanathan, Ramanarayanan, Professor, Ph.D., Southern Methodist University, 1983; 1983. Detection and estimation theory, spread spectrum communication, communication theory, signal processing.

Master of Science Degree in Electrical Engineering

Southern Illinois University at Carbondale offers graduate programs of study and research leading to the Master of Science degree in electrical engineering. The Department of Electrical Engineering provides a rich environment for educational and professional advancement in the following areas: digital systems, computer engineering, artificial neural systems, expert systems, pattern recognition, communication systems, information theory, signal processing, robust systems, control systems, robotics, power systems, power electronics, electromagnetics, microwaves, solid state electronics, gaseous electronics, laser electronics, optical computing, and biomedical instrumentation.

The programs of study provide a balance between formal classroom instruction and research, and are tailored to the individual student's academic and professional goals. Graduates of the program enjoy excellent employment opportu-

nities and are highly recruited for positions nationwide in industry, government, and academia.

Admission

The program is open to qualified individuals with a Bachelor of Science in electrical or computer engineering who satisfy the minimum admission requirements set by the Graduate School and the additional requirements of the department. Normally, a GPA of 3.0/4.0 is required by the electrical engineering department. Qualified applicants with Bachelor of Science in another branch of engineering, physics, chemistry, materials science, mathematics, statistics, or computer science may be able to enroll in the program with additional preparation. Admission to the program is granted by the chair of the department upon recommendation by the faculty.

A non-refundable application fee of \$20.00 must be submitted with the application. Attach your check or money order, payable to Southern Illinois University, to the top of the application form. Do not send cash. Only checks or money orders payable to United States banks will be accepted.

Requirements

The thesis program leading to the Master of Science degree in electrical engineering requires 30 semester hours of credit. Of this total, a minimum of 18 hours must be within the department, a minimum of 21 hours must be at the 500 level, 6 must be for thesis research and 1 must be for EE 580, Seminar. The comprehensive examination refers to all of the candidate's program of study, including the thesis.

The nonthesis program leading to the Master of Science degree in electrical engineering requires 36 semester hours of credit. Of this total, a minimum of 21 hours must be within the department, a minimum of 24 hours must be at the 500 level, 3 must be for EE 592, the research paper, and 1 must be for EE 580, Seminar. The comprehensive examination refers to all of the candidate's program of study, including the research paper.

Assistantships, fellowships, and scholarships are available to the most qualified graduate students.

Further information about the program is available at the Department of Electrical Engineering, Engineering Building E, Room 202, Southern Illinois University at Carbondale, Carbondale, Illinois 62901-6603. The telephone number is 618-536-2364, the facsimile number is 618-453-7912, and the email address is eedept@siu.edu. The home page address is http://howard.engr.siu.edu/elec/siu_ee.html.

Courses (EE)

Graduate work in the Department of Electrical Engineering is offered toward a concentration for the Master of Science degree in electrical engineering. Safety glasses are required for some of the courses in this department. Four-hundred-level courses in this department may be taken for graduate credit unless otherwise indicated in the course description.

421-3 Introduction to Hardware Descriptive Languages. Fundamental concepts, techniques and tools for computer-aided design of simple digital systems. Modeling of digital systems using hardware descriptive languages, behavioral description and structural description. Realization of the design on FPGA-like chips. Simulation and testing. Prerequisite: 327.

424-4 Microprocessor-Based System. Microprocessor technology. Design, construction and programming of microprocessor-based systems. Lecture and laboratory. Cost of parts for micro-

processor-based system, approximately \$80. Prerequisite: 427 or concurrent enrollment or consent of instructor.

425-3 Computer-Aided Design of Digital VLSI Systems I. Principles of using CAD tools in designing digital VLSI systems: stick diagrams, design rules and layout diagrams for CMOS technology. Design and implementation of custom VLSI integrated circuits. Projects. Prerequisite: 336 and 345 and 427.

427-4 Structure of Digital Computers. Introduction to structure and design of digital comput-

ers: central processing unit, arithmetic unit, memory organization including cache and virtual memory concepts, input and output systems, interrupts, direct memory access, hardwired and microprogrammed control units. Trends in computers. Lecture and laboratory. Prerequisite: 327.

428-4 Digital Hardware Design. Introduction to theoretical concepts and experimental design and construction of digital systems with a microprocessor as system controller. FPGA (Field Programmable Gate Arrays) or similar logic. Lecture and laboratory. Laboratory fee of \$10 to help defray cost of consumable items. Prerequisite: 427 or the consent of the instructor.

446-4 Electronic Circuit Design. Analysis and design of electronic circuits, both discrete and integrated. Computer-aided circuit design and analysis. Consideration of wideband, power and tuned amplifiers; switching circuits; feedback; and oscillators. Design projects. Lecture and laboratory. Laboratory fee of \$10 to defray cost of consumable items. Prerequisite: 336; 355 or concurrent enrollment; 345.

447-4 Electronic Devices. Physical mechanisms governing the operation of a wide variety of semiconductor devices. Applications of specific devices to illustrate performance characteristics. Device design related to terminal properties. Term paper on design. Lecture and laboratory. Prerequisite: 336 and 345.

448-4 Laser Electronics. Excitation and lasing in various liquid, solid and gas lasers. Techniques and principles in design of laser system. Lecture and laboratory. Prerequisite: 375.

456-3 Control Theory. Fundamentals and techniques for analysis and design of linear, dynamic systems: Laplace transformation, signal-flow graphs, state variable equations, stability conditions, time-domain analysis, frequency-domain analysis, root-locus method and controller design. Prerequisite: 336 and 355.

458-3 Communications Theory. Signal transmission through linear system. Applications of Fourier transform in communications. Sampling theory. Digital coding of analog sources: pulse code, differential pulse code and delta modulations. Data transmission through telephone channels. Amplitude and frequency modulations; signal-to-noise ratio. Prerequisite 336 and 355.

459-3 Digital Control. Analysis and design of linear, discrete-data and digital control systems: z-transformation, state variable equations, stability criteria, time-domain analysis, frequency-domain analysis and digital controller designs. Prerequisite 456 or concurrent enrollment.

462-3 Biomedical Instrumentation. (Same as Physiology 462.) Diagnostic and therapeutic modalities related to engineering. Cardiovascular, neural, sensory and respiratory instrumentation. Prerequisite: consent of instructor.

465-3 Instrumentation. Measurement systems for research and manufacturing. Instrument characteristics. Digital and analog techniques and devices in instrumentation. Transducers. Signal conditioners. Displays. Control devices. Statistics of measurement. Lecture and laboratory. Laboratory fee of \$10 to help defray cost of consumable items. Prerequisite: 336 and 345.

468-3 Digital Signal Processing. Discrete-time signals and systems; sampling; z-transform; dis-

crete Fourier transform; fast Fourier transform algorithms; digital filter design; digital filter realizations. Prerequisite: 355, 336.

476-3 Introduction to Broadband Communication Systems. Digital transmission fundamentals. Satellite, microwave, video coding and optical transmission. Prerequisite: 355 and 375.

477-4 Electromagnetic Waves. Transmission-line analysis. Phasor diagrams. Smith chart. General eigen-wave analysis. Guided waves. Plane waves including optical waves. Oblique reflection and transmission. Non-reciprocal wave systems. Design of electromagnetic systems. Lecture and laboratory. Prerequisite: 375 or consent of the instructor.

478-3 Digital Communication. Application of probability theory and random processes in digital communication systems. Behavior of digital communication systems in noise. Performance comparisons of digital modulation systems. Optimum signal detection. Entropy and channel coding. Prerequisite: 351 and 355.

479-3 Electromagnetic and Optical Measurements. Fundamental measurement techniques in electromagnetic wave systems and optical systems. Accurate measurements of microwave properties of materials, laser transmission and reception, modulations and holographs. Prerequisite: 375.

483-4 Power Electronics. Power semiconductor devices. Power converters. Solid-state control of electro-mechanical systems. Lecture and laboratory. Prerequisite: 336, 345 and 385.

484-3 Computer-Aided Circuit Analysis. Network topology. Nodal analysis of linear and nonlinear networks. Standard form of state equations of linear networks. Numerical solution of state equations. Sensitivity calculations. Prerequisite: 336.

486-3 Electric Energy Sources. Principles and utilization of nuclear, solar and fossil-fuel generators. Direct energy-converters. Energy-storage devices. Cost of generating power. Prerequisite: 336 and 385, or consent of instructor.

487-4 Power Systems Analysis. Introduction to analysis of electric power systems. Modeling of power system components. Power system configuration. Per-unit quantities. Network analysis applied to power systems. Load flow. Lecture and laboratory. Prerequisite: 385.

488-3 Power Systems Engineering. Economic operation of power systems; symmetrical components; short circuit analysis; stability. Prerequisite: 487.

489-3 Electric Power Distribution. Design of primary and secondary distribution networks. Load characteristics. Voltage regulation. Metering. System protection. Technical and legal requirements in power distribution. Prerequisite: 487.

493-1 to 3 Special Topics in Electrical Engineering. Lectures on topics of special interest to students in various areas of electrical engineering. Designed to test new and experimental courses in electrical engineering. Prerequisite: consent of instructor.

521-3 Fault-Tolerant Computer Design. Concepts of error detection, location, and correction in digital systems. Codes for error detection and correction. Models and simulations of faults. Design

of tests for combinatorial and sequential circuits. Testability. Design of digital systems with testability. Prerequisite: 427.

522-3 VLSI Circuit Testing. Theoretical and practical aspects of production testing of VLSI circuits. Relations between physical defects and fault models. Procedures for generating test inputs. Design modifications for test application and theory of built-in self-test. Prerequisite: 425, 527.

527-3 Switching Circuit Theory. Study of both combinational and sequential switching circuits with emphasis on sequential networks. Threshold logic. Fault detection and location in combinational circuits. Finite-state machines including: minimization, state assignment, races, state-identification. Asynchronous sequential circuits. Linear sequential machines. Prerequisite: 427.

528-3 Advanced Computer Design. Problems in analyzing and designing advanced architectures of advanced computers. Single-instruction, multiple data; multiple-instruction, multiple data machines. Overlap, pipeline, parallel and associative processing. Design of hardware for advanced input/output systems and interconnections among processors and memories. Memory organizations. Methods for evaluating performance of advanced computers. Prerequisite: 427.

529-3 Analog-to-Digital Conversion and Related Devices. Principles, analysis and design of analog-to-digital converters, video converters, voltage-to-frequency (V/F) and frequency-to-voltage (F/V) converters; universal synchronous/asynchronous receiver/transmitter circuits; hardware implementation of: Fourier analysis, infinite/finite impulse response (IIR/FIR) filters; microcoded systems, fixed and floating point accumulators. Two projects. Prerequisite: 428 and 465 or consent of instructor.

536-3 Network Synthesis. Introduction to modern network synthesis. Driving point and transfer functions. Positive real functions, Foster networks, and Cauer networks. Active network elements. Synthesis using active elements. Prerequisite: 445 or consent of instructor.

542-3 Optical Information Processing. Fraunhofer and Fresnel diffraction, the reciprocity theorem, Kirchoff's integral. General aspects of mutual coherence. Basic properties of recording materials. Phase transformation of thin lenses, Fourier transform properties of lenses, coherent optical information processing systems and applications. Introduction to holography and its applications. Prerequisite: 355.

544-3 Radiation Effects in Semiconductor Materials and Devices. A study of the effects of energetic photon, electron, and heavy particle bombardment effects on the properties of semiconductor materials and devices. Theory of material and device properties and operation. Theory of the interaction of radiation with matter. Acquisition and interpretation of experimental data. Prerequisite: consent of instructor.

545-3 Advanced Semiconductor Devices. Physical principles and operational characteristics of solid-state devices. p-n junction devices, Interface and thin-film devices, optoelectronic devices, and bulk-effect devices. Fabrication and circuit model of devices. Prerequisite: 447 or consent of instructor.

546-3 Gaseous Electronics. Basic science of gas discharges and plasmas. Electrode phenomenon and plasma oscillations. Application of gas discharges to dry etching, plasma-assisted chemical vapor deposition, and sputtering. Prerequisite: consent of instructor.

547-3 Solid-State Theory of Electronic Materials. Electronic properties of materials and their application to practical devices. Quantum and statistical mechanics. Semiconductor principles and devices. Thermo-electric phenomena. Magnetic materials. Quantum electronics and lasers. Prerequisite: consent of instructor.

548-3 Advanced Electronic Devices. A study of techniques in fabricating microelectronic and discrete electronic devices and influences on device design. Thick-film hybrid, thin-film hybrid, monolithic bipolar, and monolithic MOS technologies will be examined. Prerequisite: 447 and Engineering 345.

549-3 Fiber Optics Communication. Fundamentals of step index and graded index fiber waveguides using geometrical optics and Maxwell's equations. Other topics include design criteria, practical coupling techniques, discussion of optical sources and detectors used in light-wave communications, system examples, characterization and measurement techniques. Prerequisite: 447 or 448 or consent of instructor.

551-3 Probability and Random Processes. Axioms of probability, random variables and vectors, joint distributions, correlation, conditional statistics, sequences of random variables, stochastic convergence, central limit theorem, stochastic processes, stationary, ergodicity, spectral analysis, mean square estimation, prediction, filtering. Prerequisite: 478 or Mathematics 483 or consent of instructor.

552-3 Detection Theory. Signal detection in white and colored noise. Random waveforms. Matched filtering. M-ary signal detection, non-parametric detection, sequential hypothesis testing, decision theoretic schemes. Applications in communication and radar signal processing. Prerequisite: 551 or consent of instructor.

553-3 Data Communications Network. Layering. Data link control. Capacity assignment. Time delay. Queuing theory. Routing and flow control. Multiple-access networks. Collision-resolution algorithms. ISDN and metropolitan area networks. Mobile radio. Prerequisite: 551, or equivalent course in probability theory and consent of instructor.

554-3 Spread Spectrum Communication. Concepts of spread spectrum systems, frequency hopping, and direct sequence systems. Anti-jamming performance analysis, synchronization schemes, and systems with forward error correction. Prerequisite: 552 or consent of instructor.

555-3 Information Theory. Introduce the foundations of information theory as related to data compression and transmission of information. Contents: Entropy, block encoding, Huffman code, universal code, capacity, channel coding, Ergodic Theorem, Shannon-McMillan Theorem, rate-distortion theory, quantization, predictive coding, multiterminal information networks. Prerequisite: 551 or Mathematics 480 or consent of instructor.

557-6 (3,3) Complex Systems. Theory, techniques, and philosophy of analyzing and designing complex engineering systems. Methods which maintain generality in dealing with complex combinations of diverse subsystems such as electrical, mechanical, chemical, transport, and biological. Prerequisite: 457 or consent of instructor.

558-3 Digital Image Processing. Basic concepts and techniques for digital image processing. Topics include image fundamentals and representation, image transforms, enhancement, restoration, segmentation, description and classification. Prerequisite: 355 and 468.

559-3 Robust Methods in Communication. Introduce qualitative and quantitative robustness and several robust methods from the areas: estimation theory, detection theory and information theory. Topics: Robustness via continuity, Prohorov metric, breakdown point, influence function, minimax games, robust: parameter estimation, Kalman filter, prediction, hypothesis testing, matched filter, source and channel coding, quantization. Prerequisite: consent of instructor.

562-3 Advanced Biomedical Instrumentation. Scientific and mathematic analysis of instrumentation in diagnostics, therapeutics, and medical research. Purposes of instrumentation related to physiology and pathology. Prerequisite: 462 and 465.

563-3 Estimation Theory and Filtering. Parameter estimation for deterministic systems: least-squares, projection and persistent excitation methods. State and parameter estimation of stochastic systems. Bayesian estimation theory, maximum likelihood and maximum a-posteriori estimation. Optimal filtering. The Kalman recursive filter. Nonlinear estimation. Estimation bounds. Applications to communications and control. Prerequisite: 551 or consent of instructor.

564-3 Optimal Control. Optimization techniques for linear and nonlinear systems. Variational calculus. Dynamic programming. Pontryagin's maximum principle. Hamilton-Jacobi theory. Linear regulator. Bang Bang control, minimum time control, singular control. Discrete variational calculus. Combined estimation and control. Computational methods in optimal control. Prerequisite: 456 or consent of instructor.

565-3 Nonlinear Systems Analysis. Nonlinear systems, autonomous systems. Analytical approximation methods. Nonlinear differential equations. Stability of time-varying and nonlinear systems. Liapunov's method, input-output stability. Nonlinear discrete systems. Prerequisite: 456 or consent of instructor.

566-3 Adaptive Control. Adaptive systems and adaptation mechanisms. Error system models, direct and indirect adaptive control methods, self-tuning control, model reference adaptive control, variable structure adaptive control, robust control, learning control. Design techniques and applications. Prerequisite: 456 or consent of instructor.

571-3 Wireless and Personal Communications Systems. Overview of wireless technologies, access technologies and cellular systems. Fundamentals of radio and cellular communications. Digital modulation techniques. Antennas and diversity systems. Concepts of packet radio systems. North American Cellular and PCS sys-

tems. Prerequisite: 551 or Mathematics 480 or 483 or consent of instructor.

572-3 Neural Networks. Anatomy and physiology of the cerebral cortex. Feed-forward Networks, Linear Associator, Multilayer Perceptrons. Feedback Networks, Hopfield Networks, ART. Applications to pattern recognition, robotics and speech processing. Optical and electronic implementations. Prerequisite: Mathematics 305 or consent of instructor.

573-3 Field Analysis of Guided Waves. Techniques of boundary value problems, general theories of guided waves, closed wave guides of arbitrary cross sections, open wave guides, Goubau lines and optical wave guides, Green functions applied to wave guide analysis. Prerequisite: 375 or consent of instructor.

574-3 Nonlinear Optics. Coupled-mode-analysis applied to nonlinear wave interactions, harmonic generation, parametric amplification, backward wave amplifiers, backward oscillation in laser systems, phase conjugation and multiple-wave mixing systems, Pockel and Kerr effects, and electro-optical modulations in optical communication systems. Prerequisite: 375 or consent of instructor.

575-3 Analysis and Design of Neural Networks. Biological and artificial neural networks. Feedback and feed forward systems. Liapunov theories and numerical methods of solving nonlinear differential equations that describe artificial neural networks. Geometric properties in state space. Iterative and noniterative learning schemes in perceptrons. Application and optimal design of artificial neural networks. Prerequisite: Mathematics 305 (Differential Equations) or consent of the instructor.

576-3 Numerical Electromagnetics. Numerical solution of electromagnetic problems by methods that include finite element, integral equation, moment, spectral domain and finite difference. Examination of electromagnetic problems and their solutions in current literature. Prerequisite: 375, ability to program in FORTRAN, and consent of the instructor.

577-3 Antenna Theory and Design. The application of Maxwell's equations to radiating structures. Theory and design of antennas. Prerequisite: 477 or consent of instructor.

580-1 Seminar. Study and formal presentation by student of selected research in electrical engineering. Prerequisite: enrollment in program leading to Master of Science in Electrical Engineering.

582-3 HVDC Transmission. Static power conversion. Harmonics. Control of HVDC systems. Interaction between AC and DC systems. Design considerations. Faults and protection. Prerequisite: 487 or consent of instructor.

583-3 Control of Power Electronics and Drives. Properties of power semiconductor devices. Operating characteristics of AC and DC machines. Converters and cycloconverters principles and operation. Control of the DC motor. Control of the induction motor. Microcomputer application. Prerequisite: 483 or consent of instructor.

584-3 Advanced Computer Aided Circuit Analysis and Design. Network topology, nodal and mesh analysis of networks. Nonlinear networks, harmonics. State space analysis of net-

works. Sensitivity analysis. Prerequisite: consent of instructor.

586-3 Power Systems Analysis II. Techniques for solving power system problems. Network reduction. Load-flow, short-circuit, and transient-stability studies. Utilization of digital and analog computers. Prerequisite: 487.

587-3 Power System Operation and Control. Advanced mathematical and operations research methods applied to power systems such as economic dispatch, unit commitment, transmission losses, control of generation, power pools and power system security. Prerequisite: 488 or consent of instructor.

588-3 Advanced Electrical Network Theory. Graph theory. Steady-state solution of linear and nonlinear networks. Transfer function techniques. Sensitivity analysis for networks. Prerequisite: 484 or consent of instructor.

589-3 Advanced Electric Power Distribution. Analysis and design of distribution networks. Includes study of load characteristics, substations, feeders, and voltage-control and protection devices. Prerequisite: 489 or consent of instructor.

592-1 to 3 Special Investigations in Electrical Engineering. Individual advanced projects and problems selected by student or instructor. Prerequisite: graduate standing and consent of instructor.

593-1 to 3 Advanced Topics in Electrical Engineering. Lectures on advanced topics of special interest to students in various areas of electrical engineering. This course is designed to offer and test new experimental courses in electrical engineering. Prerequisite: consent of instructor.

599-1 to 6 Thesis.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Engineering

E-mail: shellie@engr.siu.edu

The College of Engineering offers graduate programs leading to the Master of Science degree in civil engineering, electrical engineering, mechanical engineering, mining engineering and manufacturing systems and a Doctor of Philosophy degree in engineering science. To support these graduate programs, the college has well equipped laboratories and computer facilities that are housed in a modern engineering complex. Additional research opportunities and funding are provided through the Center for Advanced Friction Studies, Coal Research Center, the Materials Technology Center, and the Office of Research Development and Administration.

Doctor of Philosophy in Engineering Science

Faculty in the departments of Civil Engineering, Electrical Engineering, Mechanical Engineering and Energy Processes, and Mining Engineering participate in this program.

The Doctor of Philosophy degree in engineering science is available for three concentrations in four engineering departments. The areas of concentration are as follows:

Areas of Concentration

Mechanics (solids, fluids, geotechnical, and materials). This area provides students with in-depth knowledge in solid mechanics, fluid mechanics, structures, experimental stress analysis, soil and rock mechanics, mine ground control, materials science and materials engineering. A student may select course work from 85 hours of existing 500 level engineering courses. Additional relevant courses may be taken in physics, mathematics, and geology.

Research thrusts include nonlinear response, ultimate strength, and instability behavior of structures under static and dynamic loading conditions; soil mechanics and foundation engineering; finite element modeling of fluid and mechanical systems; mechanics of composite materials and rocks; solid/liquid separation mechanics; field geotechnical studies in underground mines and tunnels; ceramics processing; and surface and interface phenomena.

Electrical Systems (computer engineering, communications and controls, power systems, electromagnetic and solid state electronics). A student interested in advanced study in this area of concentration may select from the following areas: digital systems, computer engineering, artificial neural systems, expert systems, pattern recognition, communication systems, information theory, signal processing, robust systems, control systems, robotics, power systems, power electronics, electromagnetics, microwaves, solid state electronics, gaseous electronics, laser electronics, optical computing and biomedical instrumentation. Approximately 114 semester hours of electrical engineering course work at the 500 level are currently available. An additional group of courses at the 500 level is available in the Departments of Computer Science, Mathematics, and Physics.

Current research in this area includes advanced voltage control systems, power systems, power electronics, neural networks, automatic speech recognition, multivalued and fuzzy logic, computer architecture, fault-tolerant computing and design, circuit and system theory, robust methods in communication, detection and estimation theory, computer vision, advanced control systems, optical computing, microwaves and antennas, plasma processing, and superconductivity.

Fossil Energy (mining, coal conversion, combustion, heat transfer, coal utilization, and pollution control). A student with interests in fossil fuel extraction and utilization and associated environmental problems or thermal sciences may specialize in this area. Typical course work includes mining, processing, combustion, thermodynamics, heat transfer, energy management, and conversion of fossil fuels, as well as environmental problems' abatement associated with fossil fuels. Over 75 semester hours of engineering course work at the 500 level are currently available. Other relevant courses in this area may be taken in physics, chemistry, and geology.

Current areas of research include desulfurization and refining of coal using a multitude of physical and chemical processes; recovery of coal from waste materials; surface-mined land reclamation; systems simulation of coal mining; coal conversion; advanced combustion systems; and combustion residues' disposal and utilization.

Admission and Retention

Regular Admission. Admission to the doctoral program requires a master's degree in engineering or its equivalent. Applicants for the doctoral degree must meet Graduate School admission requirements and be approved by the college graduate studies committee. A non-refundable application fee of \$20.00 must be submitted with the application. Attach your check or money order, payable to Southern Illinois University, to the top of the application form. Do not send cash. Only checks or money orders payable to United States banks will be accepted. In addition to Graduate School and other college requirements, the committee ordinarily requires a grade point average of 3.5 (4 point scale) in graduate level work. Applicants are required to submit GRE scores in support of their application for admission. Except for persons from English-speaking countries, international students are required to have a TOEFL score of 600 or higher for admission.

Upon admission to the doctoral program, an interim graduate adviser will be assigned for each student by the college associate dean for academic affairs. This adviser will be responsible with the student for planning the student's course work. The college graduate studies committee will be kept informed of the student's program of study.

Transfer credit will normally be given for some of the graduate level courses suitable to the program upon review by the college graduate studies committee. Proficiency examinations may be authorized by the committee for areas in which

questions of transfer credit arise. No credit will be given for industrial experience.

Notwithstanding the number of credits transferred towards the Ph.D. program, every student must complete at least 18 semester hours of approved course work at SIUC prior to taking the candidacy examination.

Retention is governed by the rules of the Graduate School. Students should avoid the accumulation of incomplete grades. No student with more than two incomplete grades can be awarded a graduate assistant appointment, and a student holding a graduate assistant appointment is subject to having the appointment terminated upon acquiring two or more incomplete grades.

Accelerated Entry. After at least two semesters in residence in an engineering M.S. program and after completing 18 hours of approved coursework, a student may petition for accelerated entry into the Ph.D. program. Such entry is permitted only in special circumstances to superior students who have exhibited evidence that he/she is prepared to begin the research activities of doctoral-level study. In addition, the student must have an undergraduate grade point average of 3.5 or higher, have GRE scores that are at or above the 45th percentile for the verbal component, 80th percentile of the quantitative component and 80th percentile for the analytical component or a combined total percentage score of 225 or higher and have a TOEFL score of at least 600. In addition, the student must pass a college-administered qualifying examination.

Curriculum

A minimum of 32 semester hours of course work and 24 semester hours of dissertation research is required. The course work must be completed in 2 areas; area of concentration and program core. A student must complete a minimum of 15 hours of course work relevant to an area of concentration. The course work in this area will consist of courses in engineering, mathematics, or science. A minimum of 12 hours of electives must be taken in 500-level courses. Of these, a minimum of 9 hours must be taken in 500-level courses in engineering science. The course work in the area of concentration is intended to provide depth in the student's area of research. The program core consists of 17 hours of course work in systems theory, design of engineering experiments, experimental data acquisition—theory and practice, advanced numerical methods in engineering, advanced engineering analysis (I and II), and engineering science seminar. A dissertation must be completed in the student's areas of research interest with the approval of the dissertation committee.

Program Core

ENGR 501-3 Advanced Engineering Analysis I (prerequisite: MATH 452 or equivalent)

ENGR 502-3 Advanced Engineering Analysis II (prerequisite: ENGR 501-3 or equivalent)

ENGR 520-3 Systems Theory (Prerequisite: MATH 305 or equivalent)

ENGR 530-3 Experimental Data Acquisition—Theory and Practice

ENGR 540-3 Design of Engineering Experiments (prerequisite: MATH 483 or equivalent)

ENGR 545-3 Advanced Numerical Methods in Engineering (prerequisite: ENGR 351 or EE 421, or MATH 475 or equivalent)

ENGR 580-2 Engineering and Science Seminars

A student must complete at least one of the advanced engineering analysis courses, the engineering science seminars and 4 of the 5 remaining courses. The research tool requirement is satisfied by completing the core courses.

Candidacy

A Ph.D. student must satisfy all Graduate School requirements. Acceptance to Ph.D. candidacy is contingent upon the successful completion of written examinations composed of questions that require substantive knowledge of experimental and theoretical topics in the program core and elective courses. However, questions are not limited to post-M.S. course work. The examinations are designed to evaluate the breadth and depth of the student's education, to encourage the student to organize and integrate knowledge, and to demonstrate the student's competence. The examination in the program core area will be the same for all students taking the examination at any one time. The examination in the area of concentration will vary depending upon the student's area of research. Each student is expected to pass the candidacy examination the first time it is taken. If a student fails to pass any component of the candidacy examination, the college graduate studies committee and the student's candidacy committee will review the student's examination performance, academic progress, and potential for successful completion of the degree. The joint committee will decide which examinations the candidate must retake, or it may decide to terminate the student's enrollment. In any event, the student will not be permitted to take the examination in areas more than twice.

Dissertation

A dissertation must be written under the direction or co-direction of an engineering faculty member and approved by a dissertation committee consisting of a minimum of five members, one of whom must be from outside the College of Engineering. The dissertation adviser must be chosen by the end of the student's first academic year. The dissertation committee must be formed no later than immediately after successful completion of the candidacy examination. The members of this committee need not be the same as the members of the candidacy examination committee.

A dissertation research proposal must be approved by the dissertation committee. Candidates will be required to present an acceptable dissertation describing original research performed with minimal supervision. Dissertation approval is based on a successful oral defense of the dissertation research and approval of the dissertation. This requires approval of at least 80 percent of the dissertation committee.

Graduation

1. All requirements of the Graduate School must be met.
2. A minimum of 32 hours of doctoral level course work must be completed with a minimum grade point average of 3.25.
3. An acceptable dissertation must be completed within five years after admission to candidacy or the student will be required to repeat the candidacy examinations.

Master of Science Programs

See Civil Engineering, Electrical Engineering, Manufacturing Systems, Mechanical Engineering, or Mining Engineering.

Courses (ENGR)

455-3 Engineering Geology. (See Geology 455.)

501-3 Advanced Engineering Analysis I. Series solution of ordinary differential equations, special functions of engineering analysis, vector analysis, partial differential equations of engineering analysis, the calculus of variations. Prerequisite: Mathematics 305, 450 or consent of instructor.

502-3 Advanced Engineering Analysis II. Origins of eigenvalue problems, operators on inner product spaces, spectral theorem with applications, Fourier series, two-point boundary value problems, special functions of engineering analysis, calculus of Fourier transforms with applications, generalized functions, discrete transforms,

other related transforms. Prerequisite: 501 or consent of instructor.

520-3 Systems Theory. Analysis of continuous and discrete systems, equations of state for systems, z-transform analysis, concepts of stability, controllability, and observability. Prerequisite: Mathematics 450, or equivalent.

530-3 Engineering Data-Acquisition: Theory and Practice. Theory of data-acquisition and measurement systems. Methods of measurement of electrical, mechanical, fluidic, and thermal properties. Criteria for selection of instruments and components of management systems.

540-3 Design of Engineering Experiments. Planning of experiments for laboratory and field studies, similitude and modeling, statistical design of experiments, data analysis, generalization of research findings. Prerequisite: Mathematics 450, 483 or consent of instructor.

545-3 Advanced Numerical Methods in Engineering. Engineering applications of linear and nonlinear equations, unconstrained optimization, linear and nonlinear programming, numerical solutions of ordinary and partial differential equations, eigenvalue problems. Prerequisite: Mathematics 305 and consent of instructor.

550-3 to 9 (Maximum of 3 per topic) Advanced Topics in Mechanics. Topics will be offered in fluid mechanics, solid mechanics, structures, or materials. Advanced topics in fluid mechanics include: (a) Turbulence modeling, (b) Fluid transients, (c) Flow through porous media, and (d) Rheology. Advanced topics in solid mechanics include: (e) Theory and analysis of shells, (f) Theory of elasticity, (g) Viscoelasticity. Advanced topics in structure include: (h) Structural dynamics, (i) Nonlinear structural analysis. Advanced topics in materials include: (j) Fracture mechanics and dislocation theory (k) Advanced rock mechanics, and (l) Numerical methods in geomechanics. Prerequisite: consent of instructor.

551-3 to 9 (Maximum of 3 per topic) Advanced Topics in Fossil Energy. Studies of fossil energy extraction and conversion process with emphasis on scientific principles, analytical methods, and recent technological developments. Topics include: (a) physical coal processing, (b) fine coal beneficiation, (c) coal chemistry and characterization, (d) environmental issues of air and hazardous waste, (e) advanced mining systems, (f) network theory in mine ventilation, (g) operations research applications to mining, (h) solid carbon and coal derived materials. Prerequisite: consent of instructor.

580-1 to 2 Seminar. Study and oral presentation of selected problems in advanced engineering and science. Graded *S/U* only. Prerequisite: enrollment in the Ph.D. in engineering science program and consent of instructor.

590-1 to 6 (Maximum of 3 per semester) Special Investigations in Engineering Science. Investigation of individual advanced projects and problems selected by student or instructor. Prerequisite: admission into Ph.D. program in engineering science.

600-1 to 36 (1 to 16 per semester) Doctoral Dissertation. Dissertation research. Hours and credit to be arranged by director of graduate studies. Graded *S/U* only. Prerequisite: admission to Ph.D. in engineering science program.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

English

E-mail: gradengl@siu.edu

COLLEGE OF LIBERAL ARTS

Appleby, Bruce C., Professor, *Emeritus*, Ph.D., University of Iowa, 1967; 1967.

Bennett, Paula B., Associate Professor, Ph.D., Columbia University, 1970; 1991.

Blakesley, David E., Associate Professor, Ph.D., University of Southern California, 1989; 1989.

Brand, Clinton A., Assistant Professor, Ph.D., Vanderbilt University, 1995; 1995.

Brunner, Edward J., Professor, Ph.D., University of Iowa, 1974; 1991.

Chandler, Anne K., Assistant Professor, Ph.D., Duke University, 1995; 1995.

Cogie, Jane N., Assistant Professor, Ph.D., University of Iowa, 1984; 1991.

Collins, K. K., Associate Professor and *Director of Graduate Studies*, Ph.D., Vanderbilt University, 1976; 1976.

Cruz, Ricardo C., Associate Professor, M.S., Illinois State University, 1991; 1993.

Dively, Ronda L., Assistant Professor, D.A., Illinois State University, 1994; 1994.

Donow, Herbert S., Professor, *Emeritus*, Ph.D., University of Iowa, 1966; 1966.

Fanning, Charles F., Professor, Ph.D., University of Pennsylvania, 1972; 1993.

Fox, Robert Elliot, Associate Professor, Ph.D., SUNY at Buffalo 1976; 1991.

Friend, Jewell, Professor, *Emerita*, Ph.D., Southern Illinois University at Carbondale, 1970; 1967.

Geyh, Paula E., Assistant Professor, Ph.D., University of Pennsylvania, 1994; 1995.

Goodin, George V., Associate Professor, *Emeritus*, Ph.D., University of Illinois, 1962; 1966.

Griffin, Robert P., Associate Professor, *Emeritus*, Ph.D., University of Connecticut, 1965; 1965.

Haruf, Kent A., Associate Professor M.F.A., Iowa University, 1973; 1991.

Hatton, Thomas J., Associate Professor, *Emeritus*, Ph.D., University of Nebraska, 1966; 1965.

Hawes, Clement, Associate Professor, Ph.D., Yale University, 1986; 1990.

- Hillegas, Mark**, Professor, *Emeritus*, Ph.D., Columbia University, 1957; 1965.
- Howell, John M.**, Professor and *Chair*, Ph.D., Tulane University, 1963; 1963.
- Humphries, Michael L.**, Associate Professor, Ph.D., The Claremont Graduate School, 1990; 1991.
- Hurley, Paul J.**, Professor, *Emeritus*, Ph.D., Duke University, 1962; 1965.
- Jones, Rodney G.**, Professor, M.F.A., University of North Carolina at Greensboro, 1973; 1984.
- Joseph, Allison E.**, Assistant Professor, M.F.A., Indiana University, 1992; 1994.
- Klaver, Elizabeth T.** Associate Professor, Ph.D., University of California at Riverside, 1990; 1991.
- Knopp, Lisa**, Assistant Professor, Ph.D., University of Nebraska, 1993; 1995.
- Krappe, Edith S.**, Associate Professor, *Emerita*, Ph.D., University of Pennsylvania, 1953; 1929.
- Kvernes, David M.**, Assistant Professor, *Emeritus*, Ph.D., University of Minnesota, 1967; 1968.
- Lamb, Mary E.**, Professor, Ph.D., Columbia University, 1975; 1976.
- Lang, Susan M.**, Assistant Professor, Ph.D., Emory University, 1992; 1995.
- Lawson, Richard A.**, Professor, *Emeritus*, Ph.D., Tulane University, 1966; 1963.
- Light, James F.**, Professor, *Emeritus*, Ph.D., Syracuse University, 1953; 1979.
- Little, Judy R.**, Professor, *Emerita*, Ph.D., University of Nebraska, 1969; 1969.
- Lordan, E. Beth**, Associate Professor, M.F.A., Cornell University, 1987; 1991.
- McClure, Lisa J.**, Associate Professor, D.A., University of Michigan, 1988; 1988.
- McEathron, Scott J.**, Assistant Professor, Ph.D., Duke University, 1993; 1993.
- Morey, Ann-Janine**, Professor, Ph.D., University of Southern California, 1979; 1989.
- Moss, Sidney P.**, Professor, *Emeritus*, Ph.D., University of Illinois, 1954; 1964.
- Nelms, R. Gerald**, Associate Professor, Ph.D., Ohio State University, 1990; 1990.
- Perillo, Lucia Maria**, Associate Professor, M.A., Syracuse University, 1986; 1991.
- Peterson, Richard F.**, Professor, Ph.D., Kent State University, 1969; 1969.
- Piper, Henry Dan**, Professor, *Emeritus*, Ph.D., University of Pennsylvania, 1950; 1962.
- Rainbow, R.S.**, Associate Professor, *Emeritus*, Ph.D., University of Chicago, 1959; 1949.
- Riedinger, Anita R.**, Associate Professor, Ph.D., New York University, 1985; 1989.
- Rudnick, Hans H.**, Professor, Ph.D., University of Freiburg, Germany, 1966; 1966.
- Schönhorn, Manuel R.**, Professor, *Emeritus*, Ph.D., University of Pennsylvania, 1963; 1968.
- Simeone, William E.**, Professor, *Emeritus*, Ph.D., University of Pennsylvania, 1950; 1950.
- Stibitz, E. Earle**, Professor, *Emeritus*, Ph.D., University of Michigan, 1951; 1952.
- Vieth, David Muench**, Professor, *Emeritus*, Ph.D., Yale University, 1953; 1965.
- Webb, Howard W., Jr.**, Professor, *Emeritus*, Ph.D., University of Iowa, 1953; 1956.
- Williams, Tony**, Associate Professor, Ph.D., University of Manchester, 1973; 1984.
- Zimra, Clarisse**, Associate Professor, Ph.D., University of Washington, 1974; 1988.

The Department of English offers programs leading to the Master of Arts and the Doctor of Philosophy degrees with a major in English and to the Master of Fine Arts in Creative Writing. Students enrolled in a program leading to the Master of Science in Education degree in secondary education or higher education may take courses in English to satisfy requirements for the teaching specialty. Students enrolled in the Ph.D. degree in education program may take courses in English for the elective portion of the program when permitted by the specific department participating in the degree.

Admission

Students seeking admission to the graduate program in English must first be admitted by the Graduate School before they can be admitted to the Department of English.

Students seeking admission to the M.A. degree program are strongly advised to take the General and Subject tests of the Graduate Record Examination, especially those students wishing to compete for fellowship support. Those seeking unconditional admission to the Doctor of Philosophy degree program must take the General and Subject tests of the Graduate Record Examination and present a score of the 70th percentile or above in the Subject test. Information about admission and the necessary admission forms to the graduate programs in English may be obtained by calling (618-453-5321) or by writing: Director of Graduate Studies, Department of English, Southern Illinois University at Carbondale, Carbondale, IL 62901-4503. E-mail: gradengl@siu.edu

Transfer Credit

Within limits imposed by the Graduate School, transfer credits will be accepted by the Department of English subject to the following restrictions.

The student must petition the Director of Graduate Studies giving the following information: the number and level of hours being submitted for credit, where and when the work was done, the grade received, and course descriptions and syllabi. As nearly as possible, the course to be transferred should be equated with a course offered by the SIUC Department of English. An appropriate faculty member will recommend whether the transfer credits should be accepted and whether the course satisfies the course distribution requirements of the department. The Director of Graduate Studies will forward a recommendation to the proper authorities.

Retention

In the entire graduate program, the student may accumulate up to 3 hours of work below *B*, so long as a 3.0 M.A. or 3.25 Ph.D. average is maintained. If the student has accumulated more than 3 hours, but fewer than 10 hours, of grades below *B*, these must be replaced by an equal number of hours of *A* or *B* in addition to maintaining the required average. That is, the minimum number of semester hours of course work may be increased from 30 to a maximum of 36. A student who accumulates more than 9 hours of *C* will be dropped from the program.

A student who is granted a deferred or incomplete grade must complete the work by the end of the next term in residence. Exception to this rule will be made only in a very special case and must be made through petition to the Graduate Studies Committee. A student who has accumulated more than 6 hours of such work will not be allowed to register for more course work until the total of deferred work is reduced to not more than 3 semester hours. Deferred or incomplete work will be regarded as finished when a student has submitted all examinations, papers, etc., to the instructor. Deferred or incomplete grades in ENGL 595, 600, and 601 are not included in the above regulations.

Course Work

Students may offer work from outside the department (in a single field or in two or more related fields) toward the Master of Arts, the Master of Fine Arts, or the Ph.D. degree provided that the work does not interfere with regular requirements of the Department of English and has relevance to their program.

Master of Arts Degree

The Master of Arts degree in English requires satisfactory completion of 30 semester hours, of which 15 must be earned in 500-level courses at Southern Illinois University at Carbondale. M.A. students may elect to concentrate their study on literature or on rhetoric and composition.

All students must satisfy the following requirements:

1. Core courses.

Four literature courses: two from Group I, representing two different historical periods; and two from Group II, representing two different historical periods — 12 hours

Group I:

- (a) Old and Middle English literatures
- (b) Renaissance and 17th Century English literature
- (c) Restoration and 18th Century English literature
- (d) 19th Century English literature

Group II:

- (a) American literature before 1900

- (b) American literature since 1900
- (c) Modern British literature
- (d) Modern Continental literature
- 2. *Concentrations*. Satisfactory completion of one of the concentrations detailed below.
- 3. *Foreign Language*. This requirement may be satisfied by completing, with an average not less than *B*, two years of college-level work in one foreign language or FL 488, a research-tool course, or ENGL 402 plus ENGL 506 (*Beowulf*), or the equivalent. Equivalent work will be judged on an ad-hoc basis by the director of graduate studies.
- 4. *Research paper/thesis*. This requirement may be satisfied either by submitting to the Director of Graduate Studies two copies of a research paper which has received a grade of not less than *B* in a 500-level English course (a rhetoric/composition course for students in that concentration), or by taking English 599 (3 hours) and writing an acceptable thesis.
- 5. *Final examination*. This requirement must be satisfied as specified below.

Literature Concentration

English 401 or 402 or 403 — 3 hours

Two additional literature courses so that a student has covered three periods in Group I and three periods in Group II — 6 hours

Electives should include a literary criticism/theory course and may include English 599 — 6 hours

Satisfactory completion of a written examination over six historical periods and a reading list. If a student writes a thesis, the examination is oral over the thesis and course work.

Rhetoric & Composition Concentration

English 401 — 3 hours

English 596 — 3 hours

English 597 — 3 hours

One of the following (3 hours)

English 501, English 581, English 490, English 491, or an appropriate special topics course (this decision is to be made in consultation with the Area Head of Rhetoric & Composition).

English 599 (3 hours)

Satisfactory completion of a thesis and an oral examination over the thesis and coursework.

Master of Fine Arts Degree

The Master of Fine Arts in Creative Writing requires satisfactory completion of 48 semester hours, of which 15 must be earned in 500-level courses at Southern Illinois University at Carbondale.

All students must satisfy the following requirements:

1. *Core courses*.
English 592 — 20 hours
English 594 — 4 hours
2. *Recommended and elective courses*.
As prescribed by the creative writing faculty — 15 hours
3. *Thesis*.
English 599 — 6 hours
4. *Final oral examination* over thesis and course work.

Doctor of Philosophy Degree

Students must apply formally for admission to the Doctor of Philosophy degree program, including students who have earned a master's degree at SIUC. Ad-

mission to the Ph.D. program is decided by the Graduate Studies Committee, which makes its decision according to the following criteria:

1. An M.A. degree in English or its equivalent
2. Appropriate grade-point average (normally, a 3.25 is the acceptable minimum)
3. A satisfactory score on the GRE advanced literature examination (normally the 70th percentile will constitute an acceptable minimum score)

A full-time student holding a master's degree can complete the doctoral program in two years, though most prefer three. Students are considered Ph.D. candidates when they have (1) completed the prescribed course of study, (2) satisfied the research-tool requirements, (3) passed preliminary examinations, and (4) been recommended by the English graduate faculty. The Graduate School recognizes students as Ph.D. candidates after it receives notification that the students have passed preliminary examinations. Students must be admitted to candidacy at least 6 months prior to the final examination on the dissertation.

Accelerated Entry into the Ph.D. Degree Program

A student enrolled in the M.A. degree program may petition the Graduate Director after 2 semesters in residence for waiver of the requirement of the M.A. degree as prerequisite for admission to the doctoral program and for direct entry into the Ph.D. in accordance with the following conditions. First, the student must be an exceptional graduate student whose outstanding academic achievements must be supported by a wide range of conclusive evidence including, but not restricted to, the G.P.A., G.R.E. scores, M.A. degree research tool requirement, and evaluative letters from graduate instructors. Second, the student must present one graduate research paper of outstanding quality, or a published article of appropriate quality, or the equivalent for the departmental files. The petition shall be presented to the Graduate Studies Committee for approval. If accelerated entry is granted, the student will proceed toward the Ph.D. degree in accordance with the established rules of the department and the Graduate School. Students admitted into the Ph.D. program under the accelerated entry option will have to fulfill all M.A. degree requirements as part of the Ph.D. degree work, but will not receive the M.A. degree.

Course of Study

There is no prescribed number of hours for the Ph.D. degree in English. Required courses are as follows:

1. A pro-seminar to be taken in the first year of doctoral study;
2. ENGL 401 or ENGL 402 or ENGL 403 or the equivalent;
3. Two graduate courses in literary theory or rhetorical theory or cultural studies;
4. One graduate course in three of the following areas: Old and Middle English literatures; Renaissance and 17th Century literature; Literature 1660-1800; 19th Century studies; 20th Century studies;
5. Any courses prescribed by a student's advisory committee to ensure appropriate knowledge of a major area and 2 minor areas, normally with at least one 500-level course completed for credit, with no grade lower than *B*, in each minor area.

Research Tool Requirements

A student may satisfy the research tool requirement by fulfilling 1 of the 3 options listed below. The choice of option and languages selected must be approved by the student's advisory committee.

1. A reading knowledge, demonstrated by examination, of 2 languages in addition to English. Each must be a language in which there is a substantial literature for research and which is germane to the student's field. Foreign

students may specify their native language as one of the foreign languages, provided it is one which meets the above requirements. Foreign students choosing this option will be required to demonstrate fluency in oral and written English.

2. A command of one foreign language and its literature demonstrated by examination or by at least 3 courses numbered 400 or above, or the equivalent, with an average grade not lower than 3.0. Satisfaction of this requirement normally requires the equivalent of 3 years of study at the college level with grades of *B* or better. Foreign students may use their native languages provided those languages are appropriate to the particular fields of major emphasis. Foreign students choosing this option will be required to demonstrate fluency in oral and written English.
3. A reading knowledge of a single foreign language, demonstrated by examination, and a special research technique, completion of ENGL 402 and 506 (*Beowulf*), or a collateral field of knowledge. A special research technique should represent the acquisition of any special skill that will effectively contribute to the research proficiency of the student (provided that such a skill is not an assumed or traditional part of the major). The collateral field of knowledge is expected to broaden the student's scholarly background by permitting exploration of knowledge in a field related to the major.

To satisfy the research technique or collateral field requirement the student may complete a total of 2 semester courses numbered 400 or above, with an average grade not lower than 3.0.

The department has expanded its Ph.D. program into interdisciplinary studies on a cooperative basis with departments that deal with one pertinent subject matter and which are interested in such interdisciplinary cooperation, e.g., the Departments of Philosophy, Foreign Languages and Literatures, History, Cinema and Photography, Speech, Theater, Sociology, etc. Permission for an interdisciplinary minor must be approved by the student's committee and the Graduate Studies Committee.

Preliminary Examinations. Students on a fellowship or a graduate assistantship will be expected to take preliminary examinations no later than 2 or 3 years, respectively, after receipt of their M.A. degree.

Preliminary examinations covering 3 areas are prepared and graded by the student's advisory committee. A major area examination consists of one 6 hour written exam, the minor areas of two 3 hour written exams. Preliminary examinations will be scheduled only twice in a single term.

At the discretion of the committee, a 2 hour oral examination may follow the decision on the written examinations.

Courses (ENGL)

Students desiring to enroll in 400- and 500- level courses must have been admitted to the M.A. or Ph.D. degree program in English or must have permission of the Director of Graduate Studies in English.

401-3 Modern English Grammars. Survey of the structure of English, with emphasis on phonetics and phonology, morphology, syntax, semantics, pragmatics, grammar instruction, stylistics and language variation. Specifically designed to meet the needs of prospective teachers of composition and language arts at the secondary and college levels.

402-3 Old English Language and Literature. Introduction to the language, literature and culture of Anglo-Saxon England, with emphasis on Old English heroic and elegaic poetry, exclusive of *Beowulf*.

403-3 History of the English Language. The development of the language from its Indo-European roots through Early Modern English and selected American dialects. Emphasis on the geographical, historical and cultural causes of linguistic change.

404A-3 Medieval Allegory, History and Romance. Three popular medieval genres as represented by major texts of the early through the late Middle Ages, exclusive of Chaucer, including works such as *Dream of the Rood*, *Sir Orfeo*, *Sire Gawain and the Green Knight*, *Piers Plowman*,

The Book of Margery Kempe and selections from *Lawman's Brut* and Malory's *Le Morte Darthur*.

404B-3 Medieval Lyric, Ballad and Drama. Lyric, ballad and drama from the early through the late Middle Ages, including translations of the *Old English Wife's Lament*, *Husband's Message*, *Wanderer* and *Seafarer*, as well as Middle English religious and love lyrics and the Robin Hood ballads, with special emphasis on the great plays of the fifteenth century and the rebirth of drama in the Western World.

405-3 Middle English Literature: Chaucer. Major works, including *Troilus and Criseyde* and selections from *The Canterbury Tales*.

412-3 English Non-Dramatic Literature: The Renaissance. Topic varies, but usually lyric poets, especially 17th-century metaphysical poets such as Donne, Herbert and Marvell.

413-3 English Non-Dramatic Literature: The Restoration and Earlier Eighteenth Century. Major works of Dryden, Pope and Swift, and the non-dramatic specialties of Behn, Addison and Steele.

414-3 English Non-Dramatic Literature: The Later Eighteenth Century. Major poets from Thomson to Blake, and major prose writers, with emphasis on Johnson, Boswell and their circle.

421-3 English Romantic Literature. Wordsworth, Coleridge, Byron, Shelley, Keats and other writers of the era.

422-3 Victorian Poetry. Tennyson, Browning, Arnold, and other poets in England.

423-3 Modern British Poetry. Major modernists: Yeats, Eliot, Pound; with selected works of Auden, Owen, Thomas, Heaney and others.

425-3 Modern Continental Poetry. Representative poems by major 20th century poets of France, Italy, Germany, Spain, Russia, and Greece.

426-3 American Poetry to 1900. Trends and techniques in American poetry to 1900.

427-3 American Poetry from 1900 to the Present. The more important poets since 1900.

433-3 Religion and Literature. Introduces students to the study of religious meaning as it is found in literature.

436-3 Major American Writers. Significant writers from the Puritans to the present. May be repeated only if topic varies and with consent of the department.

437-3 American Literature to 1800. Representative works and authors from the period of exploration and settlement to the Federal period.

445-3 Cultural Backgrounds of Western Literature. A study of ancient Greek and Roman literature, Dante's *Divine Comedy*, and Goethe's *Faust*, as to literary type and historical influence on later Western writers.

446-3 Caribbean Literature. Representative texts from drama, poetry and fiction that have shaped black diaspora aesthetics in the Caribbean, with special reference to black literature of the North American continent.

448-3 Irish Literature. An introductory survey in historical context of the literature of Ireland, including Gaelic literature in translation from the early Christian era (400 AD) to the late eighteenth century; the first two centuries (the eighteenth and nineteenth) of Irish literature in English (Swift, Goldsmith, Burke, Edgeworth, Car-

leton, Thomas Moore, Mangan, Allingham); and the Celtic Twilight and the Irish Literary Renaissance (c. 1890-1921: Hyde, Gregory, Stephens, O'Kelly, George Moore, Synge, Yeats, Joyce).

451-3 Eighteenth Century English Fiction. The novel from Defoe to Jane Austen, including works by Fielding, Richardson and others.

452-3 Nineteenth Century English Fiction. The Victorian novel from 1830, including works by the Brontës, Dickens, George Eliot, Thackeray and others.

453-3 Modern British Fiction. Major writers (including Conrad, Joyce, Woolf, and Lawrence) with selected fiction from mid-century and later.

455-3 Modern Continental Fiction. Selected major works of Europe an authors such as Mann, Silone, Camus, Kafka, Malraux, Hesse.

458-3 American Fiction to 1900. Trends and techniques in the American novel and short story.

459A-3 American Prose from 1900 to Mid-century: The Modern Age. Representative narratives from the turn of the century to the post-World War II period.

459B-3 American Prose from Mid-century to the Present: The Postmodern Age. Representative narratives from the post-World War II period to the present.

460-3 Elizabethan and Jacobean Drama. Elizabethan drama excluding Shakespeare: such Elizabethan playwrights as Greene, Peele, Marlowe, Dekker; and Jacobean drama: such Jacobean and Caroline playwrights as Jonson, Webster, Marston, Middleton, Beaumont and Fletcher, Massinger, Ford, Shirley.

462-3 English Restoration and 18th Century Drama. After 1660, representative types of plays from Dryden to Sheridan.

464-3 Modern British Drama. Major writers (including Shaw and Synge), with selected works of later dramatists such as Churchill and Bond.

465-3 Modern Continental Drama. The continental drama of Europe since 1870; representative plays of Scandinavia, Russia, Germany, France, Italy, Spain and Portugal.

468-3 American Drama. The rise of drama, with emphasis on the 20th century.

469-3 Contemporary Topics in Drama. Varying topics on cross-national and cross-cultural 20th-century drama with focus on theoretical issues.

471-3 Shakespeare: The Early Plays, Histories, and Comedies. Such plays as *A Midsummer Night's Dream*, *The Merchant of Venice*, *The Taming of the Shrew*, *Henry IV Part I*, *Henry V*, and *Much Ado about Nothing*.

472-3 Shakespeare: The Major Tragedies, Dark Comedies and Romances. Such plays as *Hamlet*, *Macbeth*, *Othello*, *King Lear*, *Measure for Measure*, *The Winter's Tale* and *The Tempest*.

473-3 Milton. A reading of a selection of the minor poems, of *Paradise Lost*, *Paradise Regained*, *Samson Agonistes*, and the major treatises.

481-3 Young Adult Literature in a Multicultural Society. Introduction to the evaluation of literary materials for junior and senior high school, with emphasis on critical approaches and the multicultural features of schools and society.

485-3 Problems in Teaching Composition, Language, Literature and Reading in High

School. Must be taken the semester directly before student teaching.

490-3 Expository Writing. Advanced composition with emphasis on a variety of rhetorical strategies. Prerequisite: English 290, 390, or equivalent.

491-3 Technical Writing. Introduction to technical communication; open to entire university community. Training also provided for students interested in teaching technical writing. Prerequisite: English 290, 291, 390, 391, or equivalent.

492A-3 Creative Writing Seminar: Fiction. Instruction in advanced writing of fiction. A directed written project in fiction will be submitted at the end of the semester. A collection of short stories or novel of what instructors consider to be acceptable quality will fulfill the seminar requirement. Prerequisite: consent of department.

492B-3 Creative Writing Seminar: Poetry. Instruction in advanced writing of poetry. A directed written project in poetry will be submitted at the end of the semester. A collection of poems of what instructors consider to be acceptable quality will fulfill the seminar requirement. Prerequisite: consent of department.

492C-3 Creative Writing Seminar: Literary Nonfiction. Instruction in advanced writing of literary nonfiction prose. A directed written project in literary nonfiction prose will be submitted at the end of the semester. A collection of nonfiction work of what instructors consider to be acceptable quality will fulfill the seminar requirement. Prerequisite: consent of department.

493-3 to 9 (3 per topic) Special Topics in Literature and Language. Topics vary and are announced in advance; both student and faculty suggest ideas. May be repeated as the topic varies.

494-3 Culture Analysis and Cinema. Cultural studies exploring various and selected topics in European and American cinema. A \$10 screening fee is required.

495-3 A Survey of Literary Criticism. Introduction to the history of criticism and major recent schools of literary criticism and theory.

498-3 to 9 Internships. For English majors only. Student may take up to nine semester hours to receive credit for internships that may be available at SIU Press, Special Collections, University Museum, Coal Center, Writing Center, Computer Lab and other faculty or unit-sponsored projects. Prerequisite: being an English major.

499-1 to 6 (1 to 3, 1 to 3) Readings in Literature and Language. For English majors only. Prior written departmental approval required. May be repeated as the topic varies, up to the maximum of six semester hours.

501-3 Research in Composition. Seminar in qualitative and quantitative research methods in composition and its teaching. Prerequisite: enrollment in English graduate degree program or consent of department.

502-3 Introduction to Graduate Study and Teaching College Composition. An introduction to research methods and materials which includes a survey of critical approaches to the study of English and American literature, combined with an introduction to methods and materials related to the teaching of basic compositional skills on the college level. This course is required of all

graduate assistants who have no previous college teaching experience or no familiarity with basic research techniques.

506-3 to 12 Old and Middle English Studies. Seminars on various topics from Old and Middle English literature. May be repeated only with different topics and the consent of the department. Prerequisite: enrollment in English graduate degree program or consent of department.

510-3 to 12 Renaissance Studies. Seminars in varying topics concerned with the literature of the 16th and 17th centuries and the drama of Shakespeare. May be repeated only with different topics and the consent of the department.

516-3 to 12 Restoration and 18th Century Studies. Seminars in varying topics concerning the literature of the period. May be repeated only with different topics and the consent of the department.

530-3 to 12 19th Century English Literature. Seminars in various topics concerning the literature of the Romantic and Victorian periods. May be repeated only with different topics and the consent of the department.

533-3 to 12 American Literature Before 1900. Seminars in varying topics. May be repeated only with different topics and the consent of the department. Prerequisite: enrollment in English graduate degree program or consent of department.

539-3 to 12 American Literature After 1900. Seminars in varying topics. May be repeated only with different topics and the consent of the department. Prerequisite: enrollment in English graduate degree program or consent of department.

550-3 to 12 Modern British Literature. Seminars in varying topics concerning Modern British literature. May be repeated only with different topics and the consent of the department.

555-3 to 12 Irish Studies. Seminars on varying topics in Irish and Irish immigration studies; interdisciplinary/cultural studies approaches. May be repeated only with different topics and the consent of the department. Prerequisite: enrollment in English graduate degree program or consent of department.

579-3 to 12 (3 per topic) Studies in Modern Literature. May be repeated only if the topic varies, and with consent of department.

581-3 to 9 (3 per topic) Problems in Teaching English. May be repeated only if the topic varies, and with consent of department.

589-3 to 12 Readings in Literature and Language. For English graduate students only. Prior written departmental approval required. May be repeated as the topic varies.

591-3 to 9 Seminar in Literary Nonfiction. Critical reading and analysis of one of the major forms of literary nonfiction (biography, autobiography, popular science, the essay, literary journalism, and travel narratives). May be repeated only with different topics and the consent of the department. Prerequisite: consent of instructor.

592-4 Creative Writing Seminar. Advanced workshops offered in both fiction and poetry. Class content derives primarily from student's work. Genre announced in advance. May be repeated with consent of department. Prerequisite:

enrollment in English MFA program or consent of department.

593-3 to 12 Special Topics. Seminars in varying topics concerning language and literature. May be repeated only with different topics and the consent of the department.

594-4 Contemporary Literature Seminar. Advanced seminars offered in both contemporary poetry and contemporary fiction. Taught by creative writers and designed for students concentrating in creative writing. Prerequisite: enrollment in English MFA program or consent of instructor.

595-1 to 9 Independent Readings. Preparatory for preliminary examinations for doctoral students in English. May be taken once only, grade of *S/U*, according to the result of the preliminary examination. Prerequisite: twenty-four classroom credit hours beyond the M.A., exclusive of audits and readings.

596-3 to 12 Language Studies. Seminars in varying topics concerning rhetoric, grammar and literacy. May be repeated only with different topics and the consent of the department. Prerequisite: enrollment in English graduate degree program or consent of department.

597-3 Composition Theory. Historical and analytical approaches to theories of discourse, theories of composing and theories of pedagogy. Prerequisite: 502 or equivalent.

598-3 to 12 Studies in Issues of Literary Theory. Seminars on various issues of literary theory. May be repeated only with different topics and the consent of the department.

599-3 Thesis. For Masters' students who elect to write a thesis in lieu of one three hour graduate course. Prerequisite: successful completion of 15 hours of graduate work on the Master's degree and consent of the thesis director.

600-1 to 36 (1 to 16 per semester) Dissertation.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Finance

(See Business Administration.)

Food and Nutrition

(See Animal Science for program description.)

Foreign Languages and Literatures

E-mail: dfll1@siu.edu

COLLEGE OF LIBERAL ARTS

Albuxech, Lourdes, Assistant Professor, Ph.D., University of California, Riverside, 1997; 1997.

Bender, Lionel, Professor, *Emeritus*, Ph.D., University of Texas at Austin, 1968; 1971.

Betz, Frederick, Professor, Ph.D., Indiana University, 1973; 1978.

Bork, Albert W., Professor, *Emeritus*, Doctor en Letras, National University of Mexico, 1944; 1958.

Cáceres, Alejandro, Assistant Professor, Ph.D., Indiana University, 1992; 1994.

Davis, J. Cary, Professor, *Emeritus*, Ph.D., University of Chicago, 1936; 1930.

Edwards, Robert W., Associate Professor, Ph.D., University of Texas, 1988; 1990.

Fair, Janet K., Assistant Professor, Ph.D., University of Chicago, 1996; 1996.

Felton, Debbie, Assistant Professor, Ph.D., University of North Carolina, Chapel Hill, 1995; 1997.

Gobert, David L., Professor, Ph.D., University of Iowa, 1960; 1965.

Hammond, Charles E., Associate Professor, Ph.D., Columbia University, 1986; 1987.

Hartman, Steven Lee, Associate Professor, Ph.D., University of Wisconsin, 1971; 1971.

Hartwig, Hellmut A., Professor, *Emeritus*, Ph.D., University of Illinois, 1943; 1948.

Keller, Thomas, Associate Professor and *Chair*, Ph.D., University of Colorado, 1975; 1975.

Kilker, James, Professor, *Emeritus*, Ph.D., University of Missouri-Columbia, 1961; 1967.

Kim, Alan, Associate Professor, Ph.D., University of Southern California, 1985; 1988.

Liedloff, Helmut, Professor, *Emeritus*, Ph.D., Phillips University, Germany, 1956; 1959.

Lowe-Dupas, Hélène, Assistant Professor, Ph.D., Ohio State University, 1993; 1994.

Meinhardt, Warren, Associate Professor, Ph.D., University of California, Berkeley, 1965; 1969.

O'Brien, Joan, Professor, *Emerita*, Ph.D., Fordham University, 1961; 1969.

O'Bryhim, Shawn, Associate Professor, Ph.D., University of Texas at Austin, 1991; 1996.

Orechwa, Olga, Associate Professor, *Emerita*, Ph.D., Universitas Ucrainiensis Libera, Munich, Germany, 1967; 1970.

Sanjabi, Maryam, Assistant Professor, University of Paris-Sorbonne, 1992; 1989.

Speck, Charles, Assistant Professor, *Emeritus*, Laurea in Diritto Canonico, Pontifical Lateran University, Italy, 1963; 1970.

Thibeault, Thomas, Assistant Professor, Universität Salzburg, 1989; 1989.

Timpe, Eugene F., Professor, Ph.D., University of Southern California, 1960; 1972.

Ulner, Arnold R., Assistant Professor, *Emeritus*, Ph.D., University of Missouri, 1972; 1970.

Williams, Frederick, Associate Professor, Ph.D., Cornell, 1976; 1977.

Winston-Allen, C. Anne, Assistant Professor, Ph.D., University of Kansas, 1979; 1991.

Winters, Margaret, Professor, Ph.D., University of Pennsylvania, 1975; 1977.

Woodbridge, Hensley, Professor, *Emeritus*, Ph.D., University of Illinois, 1950; 1965.

The Department of Foreign Languages and Literatures offers graduate programs leading to the Master of Arts degree in foreign languages and literatures with concentrations in French or Spanish. A student whose degree program makes provision for a graduate minor may follow a program of study leading to a minor in these same subjects as well as in Russian.

Students may complete requirements for a teaching specialty in French, German, Russian, or Spanish for the Master of Science in Education degree majoring in secondary education or in higher education.

Students seeking the Master of Arts degree will be governed by the policies of the Graduate School with respect to admission, minimum credit hours, scholastic attainment, residence, and maximum time limits for completion of the program.

Admission

In addition to meeting requirements of the Graduate School, the applicant for admission to the programs in the Department of Foreign Languages and Literatures should hold a bachelor's degree with a major or at least 18 semester hours (27 quarter hours) of courses on the junior-senior level in French or Spanish. Students who meet requirements for admission to the Graduate School but do not meet departmental requirements may register as unclassified students for specific graduate courses in the department only with consent of the instructor and authorization from the head of their language section.

Requirements for Master of Arts

Students who have been admitted to graduate study will plan their course of study in periodic consultations with their graduate advisers. During such consultations, each student will decide upon either a thesis or a non-thesis (i.e., research paper) program. This decision should be made before the end of the second semester of study. Students choosing to write a thesis will register for the thesis course (599), which provides from one to six semester hours of credit. Regardless of whether the thesis or non-thesis program is chosen, every candidate must pass a comprehensive written examination and a final oral examination at a time specified by the language section. For the student writing a thesis, this final oral examination is primarily a defense of the thesis.

A minimum of 30 semester hours are required, of which at least 15 must be in 500-level courses. All students must take FL 566-3, Bibliography and Research Techniques, which should be taken as early as possible during the course of studies; also required are the linguistics structure (411) or history (412) of the language concentration. FL 436-3, Methods in Teaching Foreign Language, is recommended for all teaching assistants and those who intend to make teaching their career. With approval of the adviser, graduate courses outside the language in which the degree is being taken may be counted towards the total unit requirement. Beyond such requirements as are specified for each language, students must demonstrate proficiency in a second foreign language by passing an exam in that language or by successfully completing approved course work in that language.

FRENCH

The program of study leading to the Master of Arts degree with a concentration in French is planned to give a balanced overview in the areas of French language, literature, and civilization, and to allow a high degree of flexibility in the elaboration of the student's total program in French. Required courses are:

FL 566 Bibliography and Research Techniques

FR 411-3 Linguistic Structure of French

or

FR 412-4 History of the French Language

FR 470-3 Backgrounds of French Civilization

FR 510-3 Masterpieces of French Literature

FR 525-3 Advanced Language Skills.

The student will consult with the graduate adviser in determining a suitable program beyond those requirements.

Thesis or Research Paper (option 1 or 2 is required).

Option 1. If writing a thesis either (a) 6 hours of FR 599 or (b) 3 hours of FR 599 plus 3 hours of an elective French graduate course.

Option 2. If writing a research paper either (a) 4 hours of elective French graduate course work, plus 2 hours of FL 506 or (b) 6 hours of elective French graduate course work.

SPANISH

The program of study leading to the Master of Arts degree with a major in Spanish is designed to survey all three of the following: Hispanic linguistics, Peninsular literature, and Spanish American literature. Requirements are:

FL 566-3 Bibliography and Research Techniques

SPAN 411-3 Linguistic Structure of Spanish

or

SPAN 412-3 History of the Spanish Language

SPAN 410-3 Advanced Language Study.

The student will consult with the graduate adviser in determining a suitable program beyond those requirements.

Thesis or research paper (option 1 or 2 is required). *Option 1:* If writing a thesis, either (a) 6 hours of SPAN 599 or (b) 3 hours of SPAN 599 plus 3 hours of elective Spanish graduate course work. *Option 2:* If writing a research paper, either (a) 3 hours of elective Spanish graduate course work, plus 3 hours of FL 509 or (b) 6 hours of elective Spanish graduate course work.

Requirements for Master of Science in Education

The Master of Science in Education degree majoring in secondary education with a teaching emphasis in French, German, Russian, or Spanish requires a minimum of 30 hours, at least 13–17 semester hours in the subject matter area and 13–17 semester hours in secondary education. The Master of Science in Education degree major in higher education with a teaching emphasis in a foreign language requires at least 20 semester hours in the subject matter and 12 semester hours in higher education.

Further details as to specific requirements will be found in the respective program descriptions. For either degree, if the teaching emphasis is Russian, Russian 415 is required.

Courses (FL)

400-3 to 12 Variable Elementary Languages. Elementary conversational skills in a language not otherwise taught in this department. Since

emphasis is on oral skills only, course does not fulfill any college or departmental language re-

quirement. Language taught varies from year to year. Must be taken in **a, b** sequence.

436-3 Methods in Teaching Foreign Languages. Survey of general principles of second-language teaching, based upon insights of modern linguistics and learning-psychology. Followed by intensive practical work in classroom and language laboratory with teachers experienced in the student's specific language field. Required of prospective teachers of foreign languages in secondary schools. Prerequisite: concurrent or prior enrollment in 300-level course in French, German, Latin, Russian or Spanish.

506-1 to 4 Research Problems—French. Individual research on a literary or linguistic problem involving original investigation in areas not covered by seminars or thesis. Two hours may be used for a research paper for non-thesis programs.

507-1 to 4 Research Problems—German. Individual research on a literary or linguistic problem involving original investigation in areas not covered by seminars or thesis. Two hours may be used for a research paper for non-thesis programs.

508-1 to 4 Research Problems—Russian. Individual research on a literary or linguistic problem involving original investigation in areas not

covered by seminars or thesis. Two hours may be used for a research paper for non-thesis programs.

509-1 to 3 Research Problems—Spanish. Individual research on a literary or linguistic problem involving original investigation in areas not covered by seminars or thesis. Two hours may be used for a research paper for non-thesis programs.

535-2 Critical Theory. Theories of literature and theories underlying literary criticism, taken logically rather than chronologically. Extensive reading, in the original language whenever possible, of both primary statements and exemplificative documents.

566-3 Bibliography and Research Techniques. Introduction to the use of the chief reference works in the humanities and social sciences as they pertain to foreign languages in general. Also, extensive work with bibliography and research methods in French, German, or Spanish.

568-2 Bibliography and Research Techniques—Russian. Bibliography and research methods in the target language and its culture. Introduction to the use of the chief reference works in the humanities and social sciences as they deal with areas in which the target language is spoken.

Chinese (CHIN)

No graduate program in Chinese is offered through the Eastern Languages and Civilization section. Four-hundred-level courses in this section may be taken for graduate credit unless otherwise indicated in the course description.

410-3 The Linguistic Structure of Chinese. (Same as Linguistics 411.) Phonology and syntax of Mandarin Chinese. Principal phonological features of major Chinese dialects. Special emphasis on the contrastive analysis between Mandarin Chinese and English. Theoretical implications of Chinese syntax for current linguistic theories. Prerequisite: one year of Chinese or Linguistics 401.

435-3 Business Chinese. An overview of China's business through reading in Chinese dealing with the major aspects of China's foreign trade ranging from broad principles and policies to concrete details of operation and procedure. Enhancement of

conversational skills for business contexts. Prerequisite: 320 or equivalent.

470-3 Chinese Literature in Translation. Reading and analysis of selected Chinese works, authors, themes or genres in English translation with attention to literary genres and thought from ancient to contemporary times. Students taking this course for graduate credit will do a critical aspect. No knowledge of Chinese is required.

490-1 to 6 Advanced Independent Study in Chinese. Directed individual study of some question, author, or theme of significance in the field of Chinese literature, language or culture. Prerequisite: consent of instructor.

Classics (CLAS)

No graduate program is offered through the classics section. Four-hundred-level courses in this section may be taken for graduate credit unless otherwise indicated in the course description.

Courses numbered 388 and 488 are designed to help graduate students prepare for proficiency examination required by certain departments as evidence of competency in Latin. No prerequisite is stipulated. Students must register for these courses and are advised to take them as part of, not in addition to, their graduate program. Students will not receive graduate credit for courses numbered below 400.

388-3 Latin as a Research Tool. Intensive study of Latin as basis for development of reading knowledge. Covers grammar and vocabulary portion of first-year sequence in basic skills. Intended for graduate students. Undergraduates who wish

to enroll are encouraged to consult with course instructor.

401-3 to 6 (3 per topic) Classical Literature in Translation. Reading and analysis of selected Greek and Latin authors, genres and themes. Students taking the course for graduate credit

will do a critical study of one aspect. No knowledge of Greek or Latin is required.

415-3 to 9 (3 per topic) Readings in Greek Authors. Reading and interpretation of works of Greek literature at an advanced level. Students taking the course for graduate credit will do a critical study of one aspect. This course satisfies the COLA Writing Across the Curriculum requirement. Prerequisite: two semesters 300-level Greek or consent of instructor.

416-3 to 9 (3 per topic) Readings in Latin Authors. Reading and interpretation of works of Latin literature at an advanced level. Students taking the course for graduate credit will do a critical study of one aspect. This course satisfies the COLA Writing Across the Curriculum re-

quirement. Prerequisite: two semesters 300-level Latin or consent of instructor.

488-3 Advanced Latin as a Research Tool. Concentrated and individualized training in the recognition and interpretation of basic and complex grammatical structures and in the systematic acquisition of the principles of word formation for vocabulary expansion. Techniques for intensive and extensive readings and for translation of unedited texts in the student's own field of study. Intended for graduate students. Undergraduates who wish to enroll are encouraged to consult with course instructor. With consent of student's own department, and with a grade of *B* or *A*, satisfies graduate program requirements for foreign languages as research tool. Prerequisite: 388 or one year of Latin or equivalent.

French (FR)

Courses numbered 388 and 488 are designed to help graduate students prepare for proficiency examination required by certain departments as evidence of competency in French. No prerequisite stipulated. Students must register for these courses and are advised to take them as part of, not in addition to, their graduate program. Students will not receive graduate credit for courses numbered below 400.

388-3 French as a Research Tool. Intensive study of French as basis for development of reading knowledge. Covers grammar and vocabulary portion of first-year sequence in basic skills. Intended for graduate students. Undergraduates who wish to enroll are encouraged to consult with course instructor.

410-3 Advanced Language Study. Designed to improve language skills beyond the level of 320. Selected grammar review and intensive practice in effective use of the written and spoken language through translations and free compositions. This course satisfies the CoLA Writing Across the Curriculum requirement. Prerequisite 320b and 330 or permission of instructor.

411-3 Linguistic Structure of French. (Same as Linguistics 413.) Study of the phonology, morphology, and syntax of modern spoken and written French, stressing interference areas for English speakers in learning French. Prerequisite: 320a and 321 or equivalent, and 330 or permission of instructor.

412-4 History of the French Language. A survey of the phonological and morphological changes from Latin through Vulgar Latin and Old French to Modern French; study of an original Old French text, such as the *Chanson de Roland* or a romance of Chretien de Troyes. Knowledge of Latin not required. Prerequisite: 330 or permission of instructor.

414-3 Translation Techniques. Practice in oral translation — simultaneous and subsequent; written translation practice, from and into French, of materials from sources varying from technical, commercial, political, to general interest. Advanced grammar and syntax review as they relate to translation, with practice through exercises and translation. Prerequisite: 320b or equivalent, and 330 or permission of instructor.

415-3 Literary Stylistics. A study of the aesthetics and theory of French Literary expression. Disciplined stylistic analyses of excerpts from rep-

resentative works of great French authors. Appreciation of distinctive qualities of each writer's genius. Consideration is given to various stylistic methods. Prerequisite: 330 or permission of instructor.

420-3 Medieval and Renaissance Literature. Study of the origins of French literature emphasizing the *Chanson de Roland*, *Tristan*, other courtly romances, and the lyric poetry of Villon, culminating with an examination of the development of the humanistic ideas and ideals of the French Renaissance. Prerequisite: 330 or permission of instructor.

430-4 Baroque and Classicism. An in-depth examination of artistic and social writings of baroque and classical literary figures such as Corneille, Racine, Moliere, La Fontaine, Descartes, Pascal, Mme de LaFayette, La Bruyere, and La Rochefoucauld. Discussion, reports, papers. Prerequisite: 330 or permission of instructor.

435-3 Business French II. Detailed treatment of postal facilities and services, types of banks and their operations, transport of goods, import-export, bills of exchange, billing and shipping, insurance, accounting and the stock market. These topics will be the subject of translations and of commercial correspondence. Prerequisite: 320b or equivalent, may be taken independently of 335, and 330 or permission of instructor.

440-3 Literature of the Enlightenment. Study and discussion of the novel, theater, and philosophic writing of 18th century France as literature and as expressions of the Enlightenment. Major attention given to Montesquieu, Voltaire, Diderot, and Rousseau. Prerequisite: 330 or permission of instructor.

450-4 Literary Movements of the 19th Century. Romanticism, Realism, and Naturalism in the novel and theater followed by an examination of the reaction to these movements and of the in-

fluence of symbolism. Prerequisite: 330 or permission of instructor.

460-4 Studies in Literature of the 20th Century. Examination of the major themes, forms, techniques and style of novelists from Gide and Proust to Robbe-Grillet and dramatists from Giraudoux to Ionesco and Beckett. Prerequisite: 330 or permission of instructor.

470-4 French Culture and Civilization. Study of contemporary France: values, attitudes, beliefs and instructions. French civilization (history, literature and the arts) will be treated mainly as a means of better understanding present day France. Offered in French. Prerequisite: 320a and 330 or permission of instructor.

475-3 to 6 Travel-Study in France. Travel-study project, planned under supervision of French faculty and carried out in France. Amount of credit depending on scope of study. Prerequisite: 320a or equivalent.

476-3 to 6 (3, 3) French Civilization Outside of France. Encompasses a number of individual courses, each of which focuses on one of the many areas of the world in which France has played a significant role. Manifestations of French culture and civilization, past and present, are studied and evaluated within the framework of an evolving local and global historic context.

488-3 Advanced French as a Research Tool. Concentrated and individualized training in the recognition and interpretation of basic and complex grammatical structures and in the systematic acquisition of the principles of word formation for vocabulary expansion. Techniques for intensive and extensive readings and for translation of unedited texts in the student's own field of study. Intended for graduate students. With consent of student's department, and with a grade of B or A, satisfies graduate program requirement for foreign languages as research tool. Prerequisite: 330 or permission of instructor, and 388 or one year of French, or equivalent.

490-1 to 6 Advanced Independent Study in French. Individual exploration of some question, author, or theme of significance within the field of French literature, language or culture. Prerequisite: 320a, 321, 330 and permission of instructor.

501-2 to 6 Studies on a Selected Topic or Author. Intensive study of one author or topic.

510-3 Masterpieces of French Literature. Appreciation and analysis of selected masterpieces in French literature with special attention given

to required authors and works from the Master of Arts reading list.

520-1 to 3 Literature of the Middle Ages and Renaissance. A study of selected authors, literary movements, and expressions of the political realities and the philosophical currents of the Middle Ages and Renaissance.

525-3 Descriptive Stylistics. Consideration of levels of linguistic expression in contemporary French through the study of theoretical works and representative texts. Practice in composition and translation.

536-1 Teaching French at the College Level. Prepares graduate students in French for teaching at the college level. Required of all teaching assistants in French. May not be counted to satisfy secondary certification requirements.

537-1 Teaching French at Elementary School Level. Prepares graduate students in French for teaching at the elementary school level. Required of all teaching assistants in French with an assignment to teach in elementary school. May not be counted to satisfy secondary certification requirements.

539-1 to 3 Literature of the 17th Century. Collaborative research in selected works of neo-classical French authors. Lectures, reports, discussions, paper.

540-1 to 3 Literature of the 18th Century. Selected topics, movements, or authors in the literature of the 18th Century.

550-1 to 3 Literature of the 19th Century. Selected topics, movements, or authors in the literature of the 19th Century.

560-1 to 3 Literature of the 20th Century. Study of an author, theme, movement, or critical literary issue of contemporary interest. Topics may range from the Existentialist vision or the Quest for Self to the novel of commitment of the New Novel.

599-1 to 6 Thesis.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

German (GER)

The course numbered 488 is designed to help graduate students prepare for proficiency examination required by certain departments as evidence of competency in German. No prerequisite stipulated. Students register for this course are advised to take it as part of, not in addition to, their graduate program.

410-3 Advanced Language Study. Designed to improve language skills beyond the level of 320. Selected grammar review and intensive practice in effective use of written and spoken language through translations and free compositions. This course satisfies the COLA Writing Across the Curriculum requirement. Prerequisite: 320b or equivalent.

411-3 Linguistic Structure of Modern German. (Same as Linguistics 409) The descriptive

study of phonology, grammatical structure, and vocabulary of modern German with consideration of its structural differences from English and application to teaching. Appropriate for students with at least two years of German. Conducted in English.

412-3 History of the German Language. Development of German from its Indo-European origin to the present in political and cultural context. The main linguistic aspects dealt with are lexical

and semantic changes. Appropriate for students with at least two years of German. Readings in German. Conducted in English.

435-3 Business German. An overview of German business, presented through lectures, readings and discussions. Coursework with textbook and supplementary materials will focus on the major aspects of German business. Exercises will include vocabulary building, listening and reading comprehension, oral and written summarization, role playing in typical situations, mock telephone conversations and business correspondence. Prerequisite: 320b or consent of instructor.

440-3 Studies in Early German Literature. The literature of the German-speaking countries from the early Middle Ages through the seventeenth century, with varying emphasis on authors, themes, genres, periods. Prerequisite: 330 or 335, consent of instructor, or graduate standing.

450-3 Studies in 18th Century Literature. Examination of the major writers and movements with their social, historical, and intellectual background during the 18th century in Germany and Austria. Prerequisite: 330 or 335, consent of instructor, or graduate standing.

455-3 Studies in 19th Century Literature. Detailed focus on specific aspects rather than a general survey of 19th century literature, e.g., major periods and movements, or major genres and sub-genres, or major and representative authors. Prerequisite: 330 or 335, consent of instructor, or graduate standing.

480-3 Studies in 20th Century Literature. Detailed focus on specific aspects rather than a general survey of 20th century literature, e.g., major periods, movements, and tendencies, or major genres and sub-genres, or major and representative authors. Prerequisite: 330 or 335, consent of instructor, or graduate standing.

488-3 Advanced German as a Research Tool. Concentrated and individualized training in the

recognition and interpretation of basic and complex grammatical structures and in the systematic acquisition of the principles of word formation for vocabulary expansion. Techniques for reading and for translation of unedited texts in the student's own field of study. Intended for graduate students. With consent of student's department, and with a grade of *B* or *A*, satisfies graduate program requirement for foreign language as a research tool. Prerequisite: Passing of CLEP test in German; or one year of college-level German; or consent of instructor (as determined by examination).

490-1 to 6 (1 to 3, 1 to 3) Independent Study in German. Project-study under supervision of German faculty. Amount of credit depends on scope of study. May be repeated as the topic varies, up to the maximum of six semester hours. Prerequisite: senior or graduate standing and approval of supervising instructor.

493-3 to 9 (3 per topic) Seminars in Special Topics in Literature and Language. Topics vary and are announced in advance; both students and faculty suggest ideas. May be repeated as the topic varies. Primarily for undergraduates. Prerequisite: consent of instructor.

590-3 to 9 (3 per topic) Independent Study on Special Topics in Literature and Language. May be repeated only if the topic varies, and with consent of department.

599-1 to 6 Thesis.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Japanese (JPN)

No graduate program in Japanese is offered through the Eastern Languages and Civilization section. Four-hundred-level courses in this section may be taken for graduate credit unless otherwise indicated in the course description.

410-3 The Linguistic Structure of Japanese. (Same as Linguistics 412.) Inductive approach to the analysis of various aspects (such as phonology, morphology, syntax) of Japanese grammar with emphasis on syntactic structures within any of the current theoretical frameworks such as pragmatics, functionalism and formal linguistics. May include contrastive analysis between Japanese and English, and close examination of theories of comparative-historical linguistics of Japanese and Korean. Prerequisite: one year of Japanese or one previous course in linguistics or consent of instructor.

435-3 Business Japanese. An introduction to the language and culture of the Japanese business world and to the structure of the Japanese business economy. The emphasis will be on learning appropriate levels of formality and politeness in oral communication and on achieving competency in the specialized language of business. Prerequisite: 320 or equivalent.

490-1 to 6 Advanced Independent Study in Japanese. Directed individual study of some questions, author, or theme of significance in the field of Japanese literature, language or culture. Prerequisite: consent of instructor.

Russian (RUSS)

No graduate program is offered through the Russian section. (See Chapter 2 for Russian as a teaching specialty for the Master of Science in Education degree in secondary education or in higher education.) Four-hundred-level courses in this

section may be taken for graduate credit unless otherwise indicated in the course description.

Courses numbered 388 and 488 are designed to help graduate students prepare for proficiency examination required by certain departments as evidence of competency in Russian. No prerequisite is stipulated. Students must register for these courses and are advised to take them as part of, not in addition to, their graduate program. Students will not receive graduate credit for courses numbered below 400.

388-3 Russian as a Research Tool. Intensive study of Russian as basis for development of reading knowledge. Covers grammar and vocabulary portion of first-year sequence in basic skills. Intended for graduate students. Undergraduates who wish to enroll are encouraged to consult with course instructor.

411-3 Russian Stylistics. Writing styles in Russian and its application to the development of skills in written expression. This course satisfies the COLA Writing Across the Curriculum requirement.

415-3 Russian Linguistic Structure. Structural analysis of present-day Russian with special attention to morphology and syntax.

430-4 Business Russian. A study of the style of commercial language and its application to the development of skill in business correspondence, such as: inquiries, offers, orders, contracts, agreements, as well as documents concerning transport, insurance and customs. Prerequisite: 201 or equivalent.

465-3 Soviet Russian Literature. Major fiction writers and literary trends since 1917. Lectures, readings and reports.

470-3 Soviet Civilization. Soviet culture and civilization is studied primarily through literary works, journalistic materials, and excerpts from non-literary works as general background reading. Lectures are illustrated with maps, slides, films and art works. Taught in English. Readings are in English and in bilingual edition. No prerequisite: May count toward Russian major with consent of graduate adviser.

475-2 to 3 Travel-Study in USSR. Specialized course comprising part of the travel-study program in the Union of Soviet Socialist Republics. Prerequisite: 201 or equivalent.

480-4 Russian Realism. Authors in 19th century Russian literature. Special attention to stylistic devices. Lectures, readings, and individual class reports.

485-3 Russian Poetry. A study of literary trends and representative works of Russian poets.

488-3 Advanced Russian as a Research Tool. Concentrated and individualized training in the

recognition and interpretation of basic and complex grammatical structures and in the systematic acquisition of the principles of word formation for vocabulary expansion. Techniques for intensive and extensive readings and for translation of unedited texts in the student's own field of study. Intended for graduate students. With consent of student's department, and with a grade of B or A, satisfies graduate program requirement for foreign languages as a research tool. Prerequisite: 388 or one year of Russian or equivalent.

490-1 to 6 Advanced Independent Study in Russian. Directed independent study in a selected area of Russian studies. Prerequisite: consent of instructor.

493-3 to 9 (3 per topic) Seminars in Special Topics in Literature and Language. Topics vary and are announced in advance; both students and faculty suggest ideas. Students taking the course for graduate credit will do a critical study of one aspect. May be repeated as the topic varies. Prerequisite: consent of instructor.

501-2 Seminar on a Selected Russian Author. Intensive study of one author, including the author's life, work, and place in the literary and cultural development of civilization.

502-2 Seminar in Contemporary Russian Literature. Intensive study of the works of representative Russian authors, with special reference to the correlation existing between literary expression and social, economic, and political conditions since the Revolution. Lectures, outside readings, reports are required.

599-1 to 6 Thesis.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Spanish (SPAN)

Courses numbered 388 and 488 are designed to help graduate students prepare for proficiency examination required by certain departments as evidence of competency in Spanish. No prerequisite is stipulated. Students must register for these courses and are advised to take them as part of, not in addition to, their graduate program. Students will not receive graduate credit for courses numbered below 400.

388-3 Spanish as a Research Tool. Intensive study of Spanish as a basis for development of reading knowledge. Covers grammar and vocabu-

lary portion of first-year sequence in basic skills. Intended for graduate students. Undergraduates

who wish to enroll are encouraged to consult with course instructor.

410-3 Advanced Language Study. Intensive writing practice with emphasis on style, organization and problematic aspects of grammar. This course satisfies the COLA Writing Across the Curriculum requirement. Prerequisite: 320.

411-3 Linguistic Structure of Spanish. (Same as Linguistics 414.) Theory and practice in Spanish pronunciation and study of Spanish grammatical structure, in contrast to English, with application to teaching.

412-3 History of the Spanish Language. Survey of internal and external history, from Vulgar Latin to Modern Spanish.

425-3 Spanish Literature Before 1700. The literature from Spain from its beginnings in the Middle Ages through the Golden Age. Prerequisite: 310 or 315, consent of instructor or graduate standing.

430-3 The Golden Age: Drama. Plays of Lope de Vega, Calderon, Tirso de Molina, and others. Prerequisite: 310 or 315, consent of instructor or graduate standing.

431-3 Cervantes. *Don Quixote*. Prerequisite: 310 or 315, consent of instructor or graduate standing.

434-3 Colonial Literature in Spanish America. Study of the literature of Spanish America before 1825. Prerequisite: 310 or 315, consent of instructor or graduate standing.

435-3 Business Spanish. Discussion and practice of the vocabulary, styles, and forms used in Spanish business correspondence, as well as report writing and documents dealing with trade, transportation, payment, banking and advertising. Prerequisite: 320.

460-3 Spanish Literature of the 20th Century. The main currents and outstanding works in the literature of Spain since 1900. Prerequisite: 310 or 315, consent of instructor or graduate standing.

485-3 The Spanish American Short Story. Survey of the genre in Spanish America. Prerequisite: 310 or 315, consent of instructor or graduate standing.

486-3 Spanish American Drama. A survey of the development of the genre from the earliest times to the present. Prerequisite: 310 or 315, consent of instructor or graduate standing.

487-3 The Spanish American Novel. Survey of the genre in Spanish America. Prerequisite: 310 or 315, consent of instructor or graduate standing.

488-3 Advanced Spanish as a Research Tool. Concentrated and individualized training in the recognition and interpretation of basic and complex grammatical structures and in the systematic acquisition of the principles of word formation for vocabulary expansion. Techniques for intensive and extensive readings and for translation of unedited texts in the student's own field of

study. Intended for graduate students. With consent of student's department, and with a grade of B or A, satisfies graduate program requirements for foreign languages as research tool. Prerequisite: one year of Spanish or equivalent.

490-1 to 3 Advanced Independent Study. Individual exploration of some topic in Hispanic literature, language, or culture. Prior consent of instructor required.

493-3 to 9 (3 per topic) Special Topics in Literature and Language. Topics vary and are announced in advance. May be repeated as the topic varies. Prerequisite: consent of instructor.

502-3 to 6 (3,3) Seminar in Hispanic Linguistics. Involves intensive study of a selected topic.

503-3 to 6 (3,3) Selected Topics in Literature and Language. Topics in Spanish Literature, Spanish-American Literature and Hispanic Linguistics vary and are announced in advance.

504-3 to 6 (3,3) Seminar in Spanish Literature and/or Spanish American Literature. Intensive study of a selected topic.

521-3 Medieval Spanish Literature. Studies in epic and didactic literature, and lyric poetry.

530-3 Golden Age Drama. Intensive study of Golden Age drama.

535-2 to 4 (2,2) Spanish American Literature before 1900. Intensive study of a literary movement, trend, genre, or author of the period, as specified by the topic to be announced for each semester.

536-1 Teaching Spanish at the College Level. Prepares graduate students in Spanish for teaching at the college level. Required of all teaching assistants in Spanish.

540-3 Spanish Literature of the 18th and 19th Centuries. Intensive study of a literary movement, trend, genre, or author of the period, as specified by the topic to be announced for each semester.

560-3 Spanish Literature of the 20th Century. Intensive study of a literary movement, trend, genre, or author of the period, as specified by the topic to be announced for each semester.

565-3 to 6 (3,3) Spanish American Literature of the 20th Century. Intensive study of a literary movement, trend, genre, or author of the period, as specified by the topic to be announced for each semester.

599-1 to 6 Thesis.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded S/U or DEF only.

Forestry

COLLEGE OF AGRICULTURE

Aubertin, Gerald M., Associate Professor, Emeritus, Ph.D., Pennsylvania State University, 1964; 1976.

E-mail: jwilson@siu.edu or j.phelps@siu.edu

Budelsky, Carl A., Assistant Professor, Emeritus, Ph.D., University of Arizona 1969; 1967.

Burde, John H. II, Professor, Ph.D., University of Arizona, 1974; 1974.

Carver, Andrew, Assistant Professor, Ph.D., Purdue University, 1998; 1998.

Chilman, Kenneth C., Associate Professor, *Emeritus*, Ph.D., University of Michigan, 1972; 1973.

Fralish, James S., Associate Professor, *Emeritus*, Ph.D., University of Wisconsin, 1970; 1969.

Groninger, John W., Assistant Professor, Ph.D., Virginia Polytechnic Institute and State University, 1995; 1997.

Kung, Fan H., Professor, Ph.D., Michigan State University, 1968; 1970.

Mangun, Jean C., Assistant Professor, Ph.D., Purdue University, 1991; 1996.

McCurdy, Dwight R., Professor, *Emeritus*, Ph.D., Ohio State University, 1964; 1965.

Phelps, John E., Professor and *Chair*, Ph.D., University of Missouri, 1980; 1990.

Roth, Paul L., Professor, Ph.D., Kansas State University, 1968; 1967.

Unger, Daniel R., Assistant Professor, Ph.D., University of Idaho, 1995; 1995.

Zaczek, James J., Assistant Professor, Ph.D., Pennsylvania State University, 1994; 1997.

The Department of Forestry offers advanced courses for the Master of Science degree with a major in forestry. In addition, curricula are available which permit graduate students with an interest in forestry to pursue their interest in Doctor of Philosophy degree programs in other departments.

Admission

In addition to requirements set forth by the Graduate School, the Department of Forestry requires the following:

1. A minimum grade point average of 2.7 is required for admission ($A = 4.0$). A grade point average of 2.7 or higher is required for stipend eligibility when available.
2. The student is required to provide proof of proficiency in technical writing. Normally an expository essay is required to evaluate whether the student should have remedial grammar or writing courses.
3. Three letters of recommendation from former professors, employers, or other responsible individuals are required.
4. Each applicant must complete the statement of interest form. This form indicates the student's area of interest in forestry and the faculty member with whom the student desires to study. All correspondence should be directed to the chair of the Department of Forestry.

Retention and Completion Requirements

Upon the graduate student's arrival on campus, an advisory committee of 3–5 members of the graduate faculty will be formed to guide the student's work. The same committee will be responsible for preparation and administration of thesis exams and also for the review and evaluation of the thesis. The advisory committee chair and at least one other member of the committee shall be members of the Department of Forestry. The other members may be selected from any academic unit including forestry.

Summary of Events.

1. The deadlines for receipt of applications and official transcripts in the office of the Graduate School are (a) the second Saturday in July for admission to the fall semester (b) the last Saturday in November for admission to the spring semester (c) the last Saturday in March for admission to the summer term.
2. Letters of recommendation should reach the Department of Forestry chair by the same dates as above.
3. Acceptance by department and Graduate School should be announced one month or earlier than the desired matriculation date. A thorough review will be made by a screening committee of Department of Forestry graduate faculty and the departmental adviser. Students rejected for admission will also be notified.

4. Registration for first semester's work after student's acceptance by the department.
5. Appointment of advisory committee chair, written plan for course work, and selection of tentative thesis areas all within first 2 months of residence.
6. Preparation of formal written thesis outline and preparation of research proposal by the eighth week of the second semester.
7. Completion of final, typed or reproduced review copies of thesis and submission of advisory committee at least 3 weeks in advance of oral defense of thesis. Handwritten or incomplete work will not be acceptable.
8. Oral exam to be followed by completion of required approval forms. If the thesis requires modifications, this should be accomplished immediately to reach the graduate dean's office in due time set by the Graduate School. One bound copy of the thesis will be provided for the department, 1 for the chair of the advisory committee in addition to 2 copies required for the Graduate School and a copy for the author. Additional copies may be required for projects sponsored by outside agencies.

Master of Science Programs

The Department of Forestry offers 3 areas of concentration with specialties within each. Combination of emphasis is possible.

FOREST RESOURCE MANAGEMENT CONCENTRATION

Under this heading, a graduate program may be elected with an area of emphasis in forest management, forest ecology, forest resources measurements, forest resources economics, forest genetics, or forest policy and administration.

OUTDOOR RECREATION RESOURCE MANAGEMENT CONCENTRATION

Emphasis may be made in social, managerial, or natural science aspects of wildlands recreation and park planning and management in the given graduate program depending on the student's interest.

WOOD SCIENCE AND TECHNOLOGY

Physical, mechanical, or biological properties of wood or woodbase materials may be studied. Also, the production and marketing of forest products may be selected.

A specialty in environmental studies in forestry is available.

Assistantships and Fellowships. Research assistantships are sponsored each year by the McIntire-Stennis Cooperative Forest Research Act. Teaching assistantships funded by the College of Agriculture are also available.

In addition to general awards made through the Graduate School, stipends for research studies are available from the Federal Forest Service, the U.S. Department of Interior, other federal and state agencies, and private corporations.

Requirements

Since the normal minimum requirement for graduation is 32 semester hours, the completion of degree work for students holding assistantships should be accomplished within four semesters (including summer) which is also the normal maximum span for financial aid.

The student must attain a grade of *B* or better for all courses specifically required in the student's academic program and which are offered by the Department of Forestry.

To gain teaching experience, graduate students are expected to assist in the classroom or laboratory for at least 1 academic semester (20 hours per week) during their tenure with the Department of Forestry. The remaining semesters

will also involve either research or teaching at the rate of 20 hours a week. All graduate students are required to enroll in Seminar (FOR 501) for 2 semesters for which they will receive 1 semester hour of credit.

Staff

In addition to the faculty listed in the Graduate School Catalog, several adjunct professors also hold appointments with the Department of Forestry. These professors are assigned to various natural resource agencies and can serve on graduate guidance committees.

Research Facilities Land. SIUC is well endowed with a number of different forest types which are available to the Department of Forestry for teaching and research purposes. In particular, we are conducting or planning research and demonstration programs on forest plots and experimental fields of the 3000 acres of the University and its experimental farms. We also have access to wooded lands of the 600 acres of the Touch of Nature Environmental Center, 400 acres at the Pine Hills Field Research Station, and other forests.

Through various memoranda of understanding and special use permits we have use of forested lands and plots on the 43,000 acres of the Crab Orchard Wildlife Refuge, the 250,000 acres of the Shawnee National Forest, and the 4000 acres of the Trail of Tears State Forest, all of which are within an hour's drive of Carbondale. In addition, we can conduct basic research on the 640 acres tract of the Beall forest near Mt. Carmel, Illinois. The forests on this land represent one of the last central hardwoods remnants of virgin bottomlands and slopes and are under the jurisdiction of the Illinois Nature Preserves Commission.

Physical Facilities. A variety of laboratories for all phases of forestry research as well as access, through cooperative agreements, to laboratory facilities with other agencies are available. A research greenhouse operated in cooperation with the U.S. Forest Service at the Tree Improvement Center on the western side of the campus is in operation for research and graduate teaching. Greenhouses and growth chamber facilities in the agriculture greenhouses in conjunction with the Department of Plant and Soil Science are also available.

Courses (FOR)

Courses in this department may require the purchase of supplemental materials. Field trips are required for certain courses.

401-3 Fundamentals of Environmental Education. (See Agriculture 401.)

402-3 Wildland Hydrology. Fundamentals of hydrology as related to forest and wildland water resources will be emphasized. Considerations will include the hydrologic cycle with emphasis on soil and groundwater regimes, evapotranspiration, surface and subsurface runoff and the quantity and timing of water yield. Offered Spring semester, odd years.

403-3 Introduction to Agroforestry. This introductory, lecture-discussion course will examine the various agroforestry concepts, systems, technologies and practices. Focus will be on the potential use and benefits of agroforestry, which involves the deliberate combining of woody perennials with herbaceous/agronomic crops and/or animals, on the same land management units, in some form of spatial arrangement and/or temporal sequence to produce desirable ecological and economical interactions among the different components. Prerequisite: junior standing or consent of instructor.

405-2 Forest Management for Wildlife. Interrelations between forest practices and wildlife populations. Emphasis is on habitat requirements of different wildlife species and ways to manipulate the forest to improve wildlife habitats. Prerequisite: forestry major, or consent of instructor.

408-4 Introduction to Remote Sensing and GIS. Introduction to the important characteristics of platforms and sensor systems used in modern remote sensing applications to forestry and the storage, analysis and display of this information by micro computers using vector and raster GIS configurations. Prerequisite: 414 and advanced standing.

409-3 Forest Resources Decision-Making. Examines management planning decision-making for multiple-use forests particularly in the public sector. Reviews concepts useful for analyzing flow-resource problems, emphasizing systems approaches, introduces use of modern quantitative methods to evaluate resource use alternatives. Case studies. Prerequisite: 411, Mathematics 140.

410-3 Forest Resources Administration and Policy. Nature of administrative organizations and influences on behavior of organization members. Society influences causing changes in forestry related organizations. Policy formation and implementation, including roles of special interest groups.

411-3 Forest Resources Economics. Introduction to forest economics: Application of micro- and macro-economic principles to forest timber and non-timber production; capital theory; benefit-cost analysis; and economics of conservation. Prerequisite: Economics 240 or Agribusiness Economics 204; and Mathematics 140.

412-2 Tree Improvement. Basic theories and techniques of obtaining genetically superior trees for forest regeneration. Prerequisite: senior standing.

414-3 Information Management. The collection of physical, biological, and social variables in the field of forestry through sampling survey. The procedures of data manipulation and calculation and the presentation of graphs and tables.

416-3 Forest Resource Management. The application of business procedures and technical forestry principles to manage forest properties. Emphasis on integrated resource management for tangible and intangible benefits. Field trips and supplemental purchases approximately \$25 for student. Prerequisite: summer camp or consent of instructor.

417-2 Forest Land-Use Planning. Principles of location theory as a basis for determining land use; supply of forest land; population pressure and demand; conservation principles; determination of forest land values; institutional factors influencing forest land-use; forest taxation; special taxes, and capital gains. Taught in alternate years. Prerequisite: 411 or consent of instructor.

418-2 Marketing of Forest Products. The role of marketing in the forest industries; review of economic principles; product policy, planning the product line, pricing, marketing channels, marketing programs, marketing organization and marketing research as influences on the marketing of lumber, wood products, pulp and paper. Taught in alternate years. Prerequisite: 411 or consent of instructor.

420-3 Park and Wildlands Management. The management of state and federal parks and recreation areas. A systems approach toward management and decision-making will be emphasized. Requires supplemental purchases of approximately \$5 per student. Prerequisite: 320c.

421-3 Recreation Land-Use Planning. Principles and methods for land-use planning of park and recreation environments with emphasis on large regional parks. Focus on planning process and types of information to gather and organize. Application in group field projects. Prerequisite: 320, 420 or consent of instructor.

422C-4 Park and Wildlands Management Camp. A study of park conditions, visitors, and management practices at selected county, state, and federal park systems in the United States, including the federal wilderness preservation system. Course requires a field trip and supplemental purchases. Prerequisite: 320 and 320c and consent of instructor.

423-3 Environmental Interpretation. (See Agriculture 423.)

428-2 Community Forestry. An introduction to principles and practices useful in the management of trees and forests in populated settings. Emphasis is placed on the development of comprehensive management strategies consistent with the biological, physical, economic and social constraints of the urban environment. Prerequisite: junior or senior standing or permission of the instructor.

430-3 Wildland Watershed Management. Emphasis is placed on the principles, technical problems, procedures, alternatives and consequences encountered in managing wildland watersheds for the production of quality water in harmony with other uses. Prerequisite: 331.

431-3 Regional Silviculture. Designed to evaluate the various silvicultural practices as they are commonly employed in various regions of the United States. Offered alternate years. Prerequisite: 310.

451-2 Natural Resources Inventory. Theory and practical problems in biometrics to obtain estimates of natural resource populations. Use of computers and other advanced techniques. Case studies of inventory procedures. Field trip cost: maximum \$20. Prerequisite: 351 or consent of instructor.

452-2 Forest Soils. Characterization and fundamental concepts of forest soils and their relationships to forest communities and forest management practices. Emphasis is on the origin of forest soil material, soil forming processes and the chemical, physical and biological properties of soils as related to forests and forest management. Prerequisite: Plant and Soil Science 240 and concurrent enrollment in Forestry 452L. Spring semester even years.

452L-2 Forest Soils Laboratory. Companion laboratory for 452. Emphasis is on methods to characterize and evaluate the chemical, physical, and biological properties of forest soils. Prerequisite: Plant and Soil Science 240 and concurrent registration in Forestry 452. Spring semester even years.

453-2 Environmental Impact Assessment in Forestry. Methods of assessing the environmental impact of land-use systems on forest resources and assessing the impact of forest management systems on environmental quality are presented. Case studies culminating in the preparation of environmental impact statements are emphasized. Field trips cost: \$20. Prerequisite: senior standing in a natural resource major.

454-2 to 8 Forest Ecology Field Studies. A study of forest communities, soils and site conditions in one of the following ecosystems: (a) Boreal; (b) Lake states; (c) Southern Appalachians; (d) Southern pine. Course requires a field trip of about 10 days. Each trip is two semester credits; a maximum of 6 credits may be applied toward graduate credit. Estimated cost: \$125.00 per trip. Prerequisite: senior standing in natural resources or biological sciences, courses in tree identification, forest ecology and soils and consent of instructor.

460-2 Forest Industries. Analysis of raw material requirements, the processes and the products

of forest industries. The environmental impact of each forest industry will also be discussed.

470-2 Wilderness Management, Policy, and Ethics. Study of current management philosophy and practice in America's wilderness. Analysis of current wilderness policy and its historical evolution. Discussion of the evolution of the wilderness idea and the individuals that have influenced it. Weekend field trip required. Prerequisite: 320 or consent of instructor.

480-3 Natural Resource Advocacy. Examines the role and methods of interest groups in influencing natural resource policies. Emphasis on applied methods, techniques and strategies for achieving interest group objectives in natural resource management. Prerequisite: junior standing or consent of instructor.

485-3 Social Influences on Forestry. Study of, and practice in, methods used for effecting social change in forestry and allied natural resource fields. Case studies, readings and survey research methodology are used to develop an understanding of the role of public opinion in ecologically sound natural resource decision making. Prerequisite: senior standing, and a course in statistics.

494-1 to 6 Practicum. Supervised practicum in a professional setting. Emphasis on administration, supervision, teaching and program leadership in community, school, park, forest, institution and public or private agencies. Students should enroll according to their curriculum specialization: (a) Forest environmental assessment, (b) Outdoor recreation resource management, (c) Forest resources management. Prerequisite: consent of instructor.

500-2 Principles of Research. Research philosophy, approaches to research; theory, hypotheses inference, and predicting; problem identification, project development and organization; methods of data collection, analysis and presentation; drawing conclusions and organizing results. Prerequisite: four hours in statistical methods or consent of instructor.

501-1 Graduate Seminar. Presentation and critiques of current research project of faculty, graduate student and selected resource persons.

511-2 Advanced Forest Resources Economics. Application of microeconomic, macroeconomic and capital theory to forest resource problems; introductory econometric methods; long range supply and demand projections; international forest economics and policy problems decision theory in forest resource management. Offered alternate years. Prerequisite: 411 or equivalent or consent of instructor.

512-2 Tree Selection and Breeding. Quantitative methods of describing variation patterns of trees, testing genetic and environmental effects and interactions and evaluations of tree improvement program. Prerequisite: 412 or consent of instructor.

516-2 Advanced Forest Management. Case studies in forest land management, management planning, utilizing computer programming, CFI and TSI role in long range management planning. Offered alternate years—odd. Prerequisite: 416, 331 and summer camp or consent of instructor.

520-2 Advanced Park Planning. Study of nature and functions of the recreation environmen-

tal planning process in theoretical and policy terms. Types of plans at local, regional and state levels. Evaluation of different types of planning approaches and their utility in particular situations. Offered alternate years. Prerequisite: 421 or consent of instructor.

521-2 Recreation Behavior in Wildlands Environments. Review of sociological and psychological theories relevant to outdoor recreation planning; management alternatives. Review of current behavior research in outdoor recreation. Application of behavioral concepts to recreation planning and administration. Offered alternate years.

530-2 Forest Site Evaluation. A discussion of the factors affecting site quality and their use in present site evaluation methods. Lectures will draw upon recently published scientific literature as well as forest research data collected and analyzed for southern Illinois forests. Laboratories will include sampling of forest sites and stands with subsequent analysis of data using graphic and statistical techniques and a computer to develop site evaluation models. Cost \$20. Prerequisite: 300, Biology 307 or consent of instructor.

531-2 Biological Productivity of Forests. The production and accumulation of organic matter in forest ecosystems is analyzed in relation to vegetational composition and structure, biogeochemical cycles, and environmental factors. Methods of quantifying productivity are emphasized during laboratory period. Cost: approximately \$15. Offered alternate years. Prerequisite: 331 or equivalent.

585-3 Human Dimensions of Natural Resource Management. Multidisciplinary study of influences and constraints on human-renewable natural resource interactions. Readings, discussion and problem solving designed to enhance appreciation of human dimensions as an integral component of natural resource management. Emphasis on diverse perspectives on forests, fisheries and wildlife; conceptual frameworks and research methodologies. Prerequisite: course in statistics or consent of instructor. Offered alternate (odd) years.

588-1 to 6 International Graduate Studies. University residential graduate program abroad. Prior approval by the department is required both for the nature of program and the number of hours of credit.

590-1 to 4 Readings in Forest Resources. Intensive consideration is given to current practices and problems in forestry. Prerequisite: consent of instructor.

593-1 to 4 Individual Research. Directed research in selected fields of forestry.

599-1 to 6 Thesis. Minimum of five hours to be counted toward a Master's degree.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Geography

E-mail: jabsher@siu.edu

COLLEGE OF LIBERAL ARTS

Arey, David G., Associate Professor, Ph.D., Clark University, 1969; 1971.

Baumann, Duane D., Professor, Ph.D., Clark University, 1968; 1967.

Beazley, Ronald I., Professor, *Emeritus*, Ph.D., Purdue University, 1954; 1959.

Bennett, David A., Assistant Professor, Ph.D., University of Iowa, 1994; 1993.

Bhattacharyya, Jnanabrata, Associate Professor, Ph.D., University of Delhi, India, 1969; 1968.

Christensen, David E., Professor, *Emeritus*, Ph.D., University of Chicago, 1956; 1961.

Denise, Paul S., Assistant Professor, *Emeritus*, Ph.D., University of California, Berkeley, 1974; 1968.

Duram, Leslie, Assistant Professor, Ph.D., University of Colorado at Boulder, 1994; 1994.

Dziegielewski, Benedykt, Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1983; 1985.

Horsley, A. D., Assistant Professor, Ph.D., Southern Illinois University at Carbondale, 1974; 1968.

Irwin, Daniel R., Associate Professor, *Emeritus*, Ph.D., Syracuse University, 1972; 1959.

Jones, David L., Professor, *Emeritus*, Ph.D., Pennsylvania State University, 1960; 1965.

Lant, Christopher L., Associate Professor and Chair, Ph.D., University of Iowa, 1988; 1988.

Lieber, Stanley R., Professor, Ph.D., University of Iowa, 1974; 1975.

Perk, H.F.W., Lecturer, *Emeritus*, A.B., University of California, Los Angeles, 1951; 1964.

Sharpe, David M., Professor, Ph.D., Southern Illinois University at Carbondale, 1968; 1966.

The Department of Geography offers programs that lead to the Master of Science and the Doctor of Philosophy degrees in geography.

The Department of Geography also participates in the Interdisciplinary Doctor of Philosophy program sponsored by the Graduate School. Past students have combined geography with a variety of other disciplines to broaden and strengthen their education. The interdisciplinary doctoral program is described in greater detail elsewhere in the Graduate Catalog (cf. Degree Requirements: Interdisciplinary Doctor of Philosophy Programs).

Geography is the discipline that deals with the relationship between human beings and their environment. The Department of Geography emphasizes the applied aspects of this theme, environmental analysis, planning, and management. The graduate program includes the several dimensions of this emphasis, e.g., the role of resources in economic development and regional planning from physical/biological, technological, socioeconomic, policy, and spatial viewpoints. Students take courses that give them a foundation in these dimensions of environmental planning and management through a core program, then develop an area of strength within this theme. Students also develop the analytic and research skills appropriate to their emphasis.

The graduate program stresses a problem-solving perspective, for which habits of critical analysis and dialogue are essential. Students take the initiative in designing and carrying out their programs with the guidance of an advisory committee and the departmental faculty. Geography maintains major linkages with many other departments. Courses and faculty expertise in other departments complement those in geography, and students are encouraged to take advantage of this. Each student's progress is assessed at regular intervals by the faculty, and the student is notified of the faculty's assessment. The student is expected to show continued progress in carrying out the program of study, and in developing habits of scholarship and professionalism.

Requirements for the Master of Science Degree

Advisement. Students newly admitted to the master's degree program are advised by the graduate program director, with the assistance of departmental faculty. Students choose a permanent adviser at the end of the first semester in residence. The choice of permanent adviser and advisory committee is made in

consultation with the graduate faculty, taking into consideration such matters as faculty expertise and faculty advisee loads.

Degree Requirements. To obtain the master's degree, the student shall:

1. Complete all degree requirements specified by the Graduate School, and explained under degree requirements, master's degree program in the *Graduate Catalog*.
2. Include as required courses the following: GEOG 500-2, Principles of Research, during the first fall semester in residence; GEOG 501-2, Seminar in Geographic Research, the following semester; GEOG 410, Techniques in Geography; and one research seminar.
3. In consultation with an adviser, develop a program of study, identifying courses to be taken, research skills to be developed, deficiencies to be rectified. This shall be approved by the faculty. The program of study shall include a core of substantive courses in geography, as explained in the policy statement on core curriculum for master's degree students, available from the graduate program director. The program of study may include non-geography courses. The graduate faculty will meet to review and approve/disapprove the program of study of each master's degree student enrolled in GEOG 500. An approved program of study will be filed with the graduate program director and department chair as part of GEOG 500.
4. Develop a thesis or research paper proposal. The thesis or research paper proposal must be approved by the student's master's advisory committee before the student registers for GEOG 599, Thesis or GEOG 593, Research in Geography. A total of 4–6 semester hours of GEOG 599 may be awarded for a thesis at the discretion of the advisory committee upon final examination on the thesis (see #5 below). A total of 2–3 semester hours may be awarded for a research paper.
5. Submit a thesis or research paper to the advisory committee at least 2 weeks before the comprehensive examination. A student who writes a thesis will be examined by the committee, at a meeting that may be attended by other faculty and students. A research paper will be evaluated and approved by the advisory committee without public presentation.
6. Complete a comprehensive examination. The statement of departmental policy on the master's comprehensive examination is available from the graduate program director. The comprehensive examination and evaluation of thesis or research paper shall be at least 6 weeks prior to the student's projected graduation date. Upon approval of the comprehensive examination and the thesis or research paper, the advisory committee will request the chair of geography forward to the Graduate School the recommendation that the master's degree be awarded.

Accelerated Entry into a Doctoral Program. After completion of one semester of residence in the Master of Science degree program the student may petition the graduate faculty for direct entry into the Ph.D. degree program. Prerequisite to petition is outstanding performance in GEOG 500, Principles of Research as judged by a majority of the faculty and clear promise of early development of requisite research skills. Additional evidence of a student's readiness to begin doctoral work includes undergraduate and graduate records, scores on exams such as the GRE, standardized tests, and reference letters. Students must meet all retention and exit requirements for the regular doctoral option. The student must submit the application materials required for regular admission to the Ph.D. degree program.

Requirements for the Doctor of Philosophy Degree

The doctoral degree in geography is a specialized research degree. The doctoral program assumes a broad background comparable to that provided by the department's masters core. It is designed to develop a comprehensive yet critically analytic knowledge of theory, literature, research design, and application related to environmental analysis, planning, and management. The doctoral student will emphasize two subfields in which to propose creative research.

Advisement. The doctoral student initially is advised by the graduate program director. Before the end of the first term of doctoral work, the student will select an adviser and they jointly will recommend a doctoral program of study and committee members to the graduate faculty for approval. The student and the doctoral committee will ascertain appropriate tools and cognate courses; proficiency in these will be certified by the doctoral committee. It is recommended that all doctoral students have a minimum of one semester of teaching or research assistant experience.

Degree Requirements. To obtain the Doctor of Philosophy degree, the student shall:

1. Complete all degree requirements specified by the Graduate School, and explained under degree requirements, doctoral degree program in the Graduate Catalog.
2. Include in the course of study the following: GEOG 500-2, Principles of Research during the first fall semester in residence; GEOG 501-2, Seminar in Geographic Research in the following semester; GEOG 510, Multivariate Techniques in Geography; and 3 research seminars.
3. Demonstrate a broad background comparable to the department's masters program by a procedure to be specified by the graduate faculty. The statement of departmental policy on core curriculum for doctoral students is available from the graduate program director.
4. In consultation with an adviser, develop a program of study, identify courses to be taken, research tools to be developed, general dissertation topic, and names of adviser and doctoral committee members. The graduate faculty will review the tentative program of study in a meeting at the end of GEOG 500, and provide advice for modifications. The graduate faculty will meet at the end of GEOG 501 to approve/disapprove the program of study. An approved program of study will be filed with the graduate program director and departmental chair as part of GEOG 501.
5. Pass a comprehensive (preliminary) examination. Upon completion of program of study, the student will complete a written and oral comprehensive examination in 2 subfields that relate to the student's research emphasis. The written portion of the comprehensive examination will be prepared by the student's doctoral committee, which will evaluate the performance and judge the student's success or failure. The examination then will be circulated to the graduate faculty. The oral examination will take place not less than 1 week or more than 2 weeks from the time of the written examination. The oral examination will be conducted by the student's doctoral committee with appropriate opportunity for all graduate faculty to ask questions. The student's success or failure of the oral examination will be judged by the student's doctoral committee. A student who fails the written or oral comprehensive examination may retake the examination after appropriate remedial action, as specified by the doctoral committee. A student who fails the second written or oral examination will be dropped from the doctoral program.

6. Having passed the comprehensive examination, present a dissertation proposal at an open meeting of the Department of Geography. The written and oral examination and presentation of the dissertation proposal are prerequisite to admission to candidacy.
7. Complete a dissertation. The student's written dissertation will be circulated to members of the doctoral committee at least 2 weeks in advance of the proposed dissertation defense. The doctoral committee will issue a public invitation a week in advance of the scheduled date of the dissertation defense. After necessary revisions have been made, the dissertation will be sent to the student's doctoral committee for final approval. The judgment of the doctoral committee will be expressed to the student and forwarded to the chair of the department for recommendation to the Graduate School for conferring of the doctoral degree.

(This program is currently under revision.)

Courses (GEOG)

400-3 Geography of Outdoor Recreation. Analysis of patterns of outdoor recreation with an emphasis on metropolitan areas. Selected topics include demand forecasting methods, cost-benefit analysis and the valuation of recreation resources and an analysis of the socioeconomic and spatial impacts of recreation facility provision.

404-3 Spatial Analysis. The purpose of this course is to equip the student with a series of perspectives and tools with which to view spatial phenomena. Emphasis is placed on methodological approaches to the analysis of areal distributions and phenomena. Longitudinal analysis of data is included. Prerequisite: 300. Geography 410 is advisable or consent of instructor.

406A-2 Introduction to Remote Sensing. An introduction to remote sensing as applied to the study of environmental systems. This course will examine the theoretical and practical concerns associated with the use and analysis of aerial photography and satellite imagery. Geography majors must take 406a and 406b concurrently. Others may take an approved alternative course in another department as a substitute for 406b.

406B-1 Introduction to Remote Sensing Laboratory. A hands-on, laboratory-based class that introduces students to remote sensing techniques as applied to geographical analysis. Emphasis is placed on the manual interpretation and analysis of remotely sensed photographs and imagery. However, students will be introduced to state of the art digital image processing technology. Geography majors must take 406a and 406b concurrently. Others may take an approved alternative course in another department as a substitute for 406b.

408-3 Advanced Remote Sensing. Advanced techniques in the analysis of remotely sensed data. Emphasis is placed on digital image processing using state of the art technology. Students will be expected to develop individual problem-driven projects that use the knowledge, tools and techniques that are developed in this course. Two hours of lecture, two hours of lab each week. Prerequisite: 406a and 406b or consent.

410-4 Techniques in Geography. Geographic applications of basic and advanced statistical and mathematical techniques, including basic descriptive statistics, hypothesis testing, regression and correlation, analysis of variance and nonparamet-

ric statistics. Special emphasis on areal measures: nearest neighbor analysis, etc. Prerequisite: 300 or consent.

416-3 Analytical Cartography. An introduction to computer and analytical cartography. Students examine techniques for the representation, manipulation and display of spatial data using computer mapping techniques and software. Emphasis will be placed on algorithmic solutions to common cartographic problems. Students will be expected to complete a team based project that uses automated cartographic techniques to address a geographic problem. Prerequisite: 310 or computer literacy, or consent.

418A-2 Introduction to Geographic Information Systems. An introduction to geographic information systems (GIS) as it is applied to environmental problem solving. Examines the theoretical and practical concerns associated with the representation and analysis of geographic phenomena using computer technology. Geography majors must take 418a and 418b concurrently. Others may take an approved alternative course in another department as a substitute for 418b. Prerequisite: 310 or consent.

418B-1 Introduction to Geographic Information Systems Lab. A laboratory-based class that introduces students to the use and application of geographic information system (GIS) technology in geography. Students explore the utility of geographic information systems through team-based projects that provide hands-on experience with commonly used GIS hardware and software. Geography majors must take 418a and 418b concurrently. Others may take an approved alternative course in another department as a substitute for 418b. Prerequisite: 310 or consent.

420-3 Advanced Geographic Information Systems. Advanced concepts and techniques for computer-based analyses of geographic information. Students will be expected to develop individual problem-driven projects that use the knowledge, tools and techniques that are developed in this course. Two hours of lecture, two hours of laboratory each week. Prerequisite: 418a and 418b or consent.

421-2 Urban Geography. Examination of extracity relationships — theory and structure; intra-city relationships — theory and structure and

selected urban problems. Offered once annually. Prerequisite: 300 or consent.

422-4 Economics in Geography and Planning. Concepts, symbols, language, theory and elementary mathematics of economics and geography. Individual's preferences, production functions, the firm, markets, optimality, externalities and welfare economics. Elementary mathematics of time and intertemporal criteria. Prerequisite: 304 or consent of instructor.

424-4 Natural Resources Planning. Analysis of the human, economic, technological, environmental and political dimensions of sustainable development focusing on public and private sector institutions that manage renewable and non-renewable natural resources. Prerequisite: 422 or Agribusiness Economics 440 or consent.

425-4 Water Resource Planning Simulation. A review of water resource planning theory and practice from a physical, technological, economic, social and geographical viewpoint. Students design a comprehensive water resource plan including flood control, water supply, water quality, and recreation for a city of 175,000 population. This plan is "played" against a 50-year trace of hydrologic parameters in a computer simulation. Prerequisite: 424 or consent.

426-4 Administration of Environmental Quality and Natural Resources. (Same as Political Science 445.) An examination of institutional arrangements and administrative practices in the protection and use of land, water, air, and mineral resources. The course includes analysis of responsibility and decision-making at all levels of government (federal, state, and local) as well as corporate, interest group, and individual responses to public programs. Particular attention will be given to administration of federal environmental quality legislation including the National Environmental Policy Act, the Clean Air Act, the Water Pollution Control Act, and the Surface Mining Reclamation Act. Prerequisite: 300 or 326 or consent of instructor.

427-3 Environmental Perception and Planning. Deals with a description and assessment of the relevance of normative and descriptive theories of decision-making and theories of choice for public policy and environmental management. Studies of the perception of urban environments and other landscapes such as wilderness areas, and perception of and human response toward natural hazards will be considered. Prerequisite: 300 or consent.

430-3 Environmental Systems Analysis. Exploration of the major environmental systems relevant to environmental planning. Topics include concepts of systems and system behavior; basics of systems analysis and modeling environmental systems; environmental fluxes of energy and materials (e.g., hydrologic cycle, carbon cycle, energy budgets, erosion and sediment transport, role of biosphere in organizing fluxes); environmental variability. Prerequisite: 302 or consent.

433-3 Advanced Physical Geography. Topics may include landforms, climate, soil or water. Varies with the interest of the instructor. Prerequisite: 302 or consent.

434-4 Water Resources Hydrology. Microclimatic factors which affect the hydrologic events of various climatic regions are treated extensively.

Methods of estimating geographic variations in hydrologic relations to climatic and microclimatic especially evapotranspiration, are compared and evaluated. Consequences of alternative land uses on climate and hydrology are considered regionally. Charges are not to exceed \$10 for field trips. Prerequisite: 302 or 430 or consent.

435-3 Energy Planning. Regional and national differences in energy supply and demand are reviewed followed by a study of current energy resources, the range of demands and environmental impacts. National and international planning strategies for dealing with changes in energy demand and supply are explored and assessed for present and future implementation probability.

436-3 Environmental Disaster Planning. Develops the skills and perspectives needed to plan effectively for natural and man-made disasters. The concepts of risk analysis, hazard mitigation and preparedness, response and recovery of the economic and social infrastructure in areas impacted by earthquakes, floods, droughts, radioactive and toxic material releases, and other catastrophic events.

438-3 Applied Meteorology. Analysis of meteorological patterns approached through study of several case histories. Evaluation of meteorological data, air mass and frontal analysis, development of weather forecasts, study of meteorological instruments, clouds, and precipitation patterns. Charges not to exceed \$5 for field trips. Prerequisite: 330 or consent of instructor.

439-3 Climatic Change — Inevitable and Inadvertent. The geologic time-scale perspective of major natural events that have affected the theoretical steady-state climate, and factors in contemporary societal practices that have brought about inadvertent climatic modification. An assessment of the means and extremes of parameter values in the geologic time-scale perspective studied will be compared with the documented and present-day climatic parameter means and extremes. Approaches to prognoses for the Earth's future climatic state will be made. Charges not to exceed \$10 for field trips. Prerequisite: GEA 330, Geography 331 or consent of instructor.

440-2 Tutorial in Geography. Prerequisite: geography major, senior standing.

443-3 Teaching of Geography. Presentation and evaluation of methods of teaching geography. Emphasis upon geographic literature, illustrative materials, and teaching devices suitable to particular age levels. Charges not to exceed \$3 for field trips. Prerequisite: 300.

452-3 Environment and Population. Introduction to population geography. Emphasis is on the relationships between population trends, resource use patterns and environmental impacts. Topics include methods and data used to describe and predict populations, theories of population, and policy issues that relate to the interaction between population, quality of life and environmental quality. Prerequisite: 320 or consent.

454-3 Conservation and Environmental Movements. Emphasizes the ways in which humans view and interact with the environment. Conservation literature and the works of influential environmentalists are studied. Specific theories and environmental movements which help to explain society's current perception and use of the

environment are studied. Prerequisite: 320 or consent.

458-3 International Environmental Movements and Organizations. International environmental movements and organizations, e.g., the Greens, the United Nations: their approach to environmental issues; their organizational and communication patterns; their relationship with national governments and their impact on environmental policy at national and international levels. Prerequisite: 320 or consent.

459-3 Culture, Political Economy and Sustainable Development. An examination of (1) the interaction of the elements that have shaped human actions towards environment in the modern period which also account for most of the conflicts over the uses, use values and values of environment; (2) the effects of conventional development practices on particular populations, such as women and indigenous peoples; and (3) alternative development policies and the idea of sustainable development. Prerequisite: 424 and 456 or consent.

471-3 Environmental Impact Analysis. Techniques of assessing the impact of human activities on the environment, including weighting schemes, cost-benefit analysis, linear programming, ecological impact assessment. Emphasis is on placing NEPA and EIS writing in legal, economic and environmental perspective. Prerequisite: 302 or 304 or consent.

475-3 Natural Resources Analysis Techniques. A study of procedures, analytical techniques, data sources and other aids for management and planning of environmental and other natural resources. Topics include techniques to promote public involvement in decision making, survey research methods, socio-economic forecasting methods, decision support techniques and project impact evaluation. Prerequisite: 410 and 422 or consent.

480-3 to 6 Internship in Geography. Supervised field work in private or public organization dealing with planning, environmental management, or cartography and geographic information management. A written proposal about the planned internship must be submitted to a faculty supervisor prior to beginning of the internship. A faculty supervised report on the work is required after the internship. Courses may be repeated, but no more than 3 credit hours of geography 480 or 481 may be applied to an undergraduate major. A graduate student may enroll for three credit hours. Prerequisite: geography major and consent of department.

481-6 to 12 Cooperative Work Experience in Geography. Placement of advanced undergraduate or graduate students in private or public organizations for one or more semesters in paid career-related positions. Students gain professional experience, under faculty and on-site supervision. A written proposal about the planned cooperative work experience must be submitted to a faculty supervisor before it begins. A report summarizing the work experience is required after the work experience ends. Course may be repeated. Three credit hours of either 480 or 481 may apply toward requirements for a geography major; three additional credit hours may apply toward degree

requirements as elective. Prerequisite: geography major and consent of department.

490-2 to 4 Readings in Geography. Supervised readings in selected subjects. Prerequisite: geography major, advanced standing.

495-1 to 6 Advanced Field Services Practicum in Southern Illinois. (Same as Social Work 495.) This course is directed at upper-classmen and graduate students volunteering service to community, social service, or health agencies in southern Illinois. Credit based on time spent in direct service. Approval of agency required for registration. Mandatory Pass/Fail for undergraduates.

500-2 Principles of Research. Problem identification in research, review of examples of geographic research, analysis of results of research and project statements are explored with appropriate faculty. Presentation of student research problems justification and identification of student program to complete degree are required.

501-2 Seminar in Geographic Research. Seminar approach to problems of completing background research design of project statements, identification of research methodology and completion of thesis/dissertation project statements. Prerequisite: 500.

510-4 Multivariate Techniques in Geography. Introduction to matrices, vectors and linear equations; multiple regression and correlation, cononical correlation, multivariate analysis of variance and covariance, analysis of variance in two- and three-way designs, multiple discriminant analysis, classification procedures, introduction to elementary factors analysis. Examples and demonstrations of each method; basic introduction to computer applications of multivariate analyses. Prerequisite: 410 or consent of instructor.

511-2 Philosophy of Geography. The nature of geography. Current trends in the field, present day geographers and schools of thought. Geography's place among the disciplines. Prerequisite: graduate standing.

520-2 to 4 Seminar in Physical Systems Evaluation. Prerequisite: graduate standing.

521-2 to 4 Seminar in Resource Planning. Prerequisite: graduate standing.

522-4 Seminar in Economics in Geography and Planning II. (Same as Economics 525.) Public expenditure criteria based on free-market allocation, public, private, and merit goods and services, and related planning; expenditure criteria based on comprehensive plans; expenditure criteria and planning in the absence of general optimality; multiple objectives, measurement of benefits and costs, shadow prices, choice of techniques in planning; consideration of uncertainty. Critical evaluations of applied work and models of development projects, and programs, by students. Prerequisite: 422 or consent of the instructor.

524-2 to 4 Seminar in Water Resources Analysis. The major goal of this course is to provide the student with the necessary quantitative skills and perspectives needed to assess water resources management problems. Prerequisite: graduate standing.

527-2 Seminar in Community and Change. This seminar explores conflicts between forces that help to maintain communities and those that

tend to fragment them; e.g., conflicts between individuality and universality, law and individual actions, virtue and history. It explores some of the forces that have transformed the human condition: the Enlightenment; the Industrial Revolution; the rise of the State; the ascent of the economic society; and hegemonies. Prerequisite: graduate standing and 456 or consent.

528-2 to 4 Seminar in Geo-processing Technology. Examines current topics and trends in the rapidly evolving field of geo-processing techniques, including geographic information systems, remote sensing and spatial decision support systems. The topics and assignments will depend on the expertise of the instructor. Prerequisite: consent.

570-2 to 4 Planning Internship. Planning internship with city or regional planning agency or private planning firm. Prerequisite: 470a or consent of department.

591-2 to 4 Independent Studies in Geography. Prerequisite: graduate standing.

593A-2 to 24 (2 to 6 per semester) Research in Physical Geography. Prerequisite: 520.

593B-2 to 24 (2 to 6 per semester) Research in Economic Geography. Prerequisite: 521.

593C-2 to 24 (2 to 6 per semester) Research in Urban and Regional Planning. Prerequisite: graduate standing.

593D-2 to 24 (2 to 6 per semester) Research in Social Geography. Prerequisite: 524.

596-2 to 4 Field Course. Prerequisite: graduate standing.

599-2 to 6 Thesis. Prerequisite: graduate standing.

600-1 to 32 (1 to 16 per semester) Dissertation. Prerequisite: graduate standing.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Geology

E-mail: geology@geo.siu.edu

COLLEGE OF SCIENCE

Crelling, John C., Professor, Ph.D., Pennsylvania State University, 1973; 1977. Coal petrology, coal geology, coal utilization.

Dutcher, Russell R., Professor, *Emeritus*, Ph.D., Pennsylvania State University, 1960; 1970. Coal geology, field geology, coal petrology.

Esling, Steven P., Associate Professor, Ph.D., University of Iowa, 1984; 1982. Quaternary stratigraphy, hydrogeology, geomathematics.

Fifarek, Richard H., Associate Professor, Ph.D., Oregon State University, 1985; 1985. Economic geology, stable isotope geochemistry; fluid inclusion studies.

Frank, Charles O., Assistant Professor, Ph.D., Syracuse University, 1973; 1970. Metamorphic petrology, igneous petrology.

Harris, Stanley E., Jr., Professor, *Emeritus*, Ph.D., University of Iowa, 1947; 1949.

Kruege, Michael A., Associate Professor, Ph.D., University of California, Berkeley, 1985; 1987. Molecular organic geochemistry, petroleum geology.

Marzolf, John E., Associate Professor, Ph.D., The University of California, Los Angeles, 1970; 1982. Clastic sedimentology, clastic petrology, sequence stratigraphy.

Pinter, Nicholas, Assistant Professor, Ph.D., The University of California, Santa Barbara, 1992; 1996. Geomorphology, environmental geology, earthquake hazard.

Ravat, Dhananjay N., Associate Professor, Ph.D., Purdue University, 1989; 1991. Geophysics, gravity, magnetism, tectonics.

Ritter, Dale F., Professor, *Emeritus*, Ph.D., Princeton University, 1964; 1972.

Robinson, Paul D., Senior Scientist *Emeritus*, M.S., Southern Illinois University at Carbondale, 1963; 1967.

Sexton, John L., Professor, Ph.D., Indiana University, 1974; 1985. Geophysics, seismic reflection and refraction.

Staub, James R., Associate Professor, Ph.D., University of South Carolina, 1985; 1988. Coal geology, basin analysis, geological engineering.

Utgaard, John E., Professor, Ph.D., Indiana University, 1963; 1965. Invertebrate paleontology, paleoecology; environments of deposition, carbonate petrology.

Zimmerman, Jay, Jr., Professor and *Chair*, Ph.D., Princeton University, 1968; 1973. Structural geology, rock deformation.

The Department of Geology offers programs leading to the Master of Science degree and the Doctor of Philosophy degree in geology.

Graduate Programs

The objectives of the graduate degree programs are to develop the student's competence in the basic fields of geology and to provide for specialization dependent on student and faculty interest. Facilities and staff are available for studies involving surface and subsurface mapping, structural geology, petrology, paleontology, micropaleontology, paleoecology, coal petrology, coal geology, energy re-

sources, stratigraphy, sedimentation, Pleistocene geology, sedimentary petrology, sedimentary environments, crystallography, mineralogy, low temperature geochemistry, ore deposits, petroleum geology, environmental geology, geomorphology, hydrogeology, and applied and solid earth geophysics. Many of the faculty are actively conducting research in which statistical and computer techniques are applied to problem solving in the earth sciences. Interdisciplinary research with other departments is encouraged.

Southern Illinois and adjacent areas offer a wide variety of geological conditions ideal for individual study and research. Experienced staff members work closely with students and provide individual assistance when necessary. The Illinois State Geological Survey and several major companies in the petroleum and coal industries actively support geological work in this area.

The major thrusts of the Ph.D. degree program focus on the geology of energy and mineral resources and geologic aspects related to exploration, development, utilization, reclamation, and environmental impact.

Students must be admitted unconditionally to the Graduate School before they can be officially admitted to either graduate program in geology. Admission to the graduate programs in geology is based on an evaluation of the preparation, ability, and promise of the applicant. Prerequisites for admission include: 1) receipt of GRE test scores sent directly to the Department of Geology; the Geology Advanced Test is required; 2) completion of department application forms which are available on request from the department; and 3) receipt of at least 3 letters of recommendation from professors, academic advisers, former employers, or others familiar with the applicant's academic performance, research, or other relevant work. The Department of Geology normally admits graduate students for entrance in the fall semester; however, applicants will be considered for spring admission. The students will be expected to have satisfactorily completed at the undergraduate level the equivalent course work in the basic sciences required for a Bachelor of Science degree in geology at SIUC.

A student admitted with course deficiencies may be required to complete or audit some undergraduate courses. First year teaching assistants are required to enroll in and complete GEOL 500. Other specific requirements will be determined by the student's advisory committee and the department chair. Students are evaluated on an individual basis, their programs are determined by their career goals and the results of informal interviews with individual faculty members.

Requirements for the Master of Science Degree

A total of 30 hours of graduate work completed with a grade point average of 3.0 or better constitutes the minimum credit requirement for the master's degree.

Courses taken are determined by the student and an advisory committee. The student will not be allowed to apply more than 8 hours of independent study or research courses toward the master's degree (exclusive of thesis credits).

A student majoring in geology may select a minor field. The minimum course work should then include 20 hours of geology and 10 hours in the minor field.

A thesis subject must be approved by the chair of the advisory committee at least 20 weeks before the date of graduation.

A final oral examination, primarily concerned with defense of the thesis is administered as the last step before graduation. The student may be asked any questions the committee feels are relevant.

In order to pass the final oral examination, students must receive a favorable majority vote from their thesis committee meeting in formal session. Should the student fail the final oral examination, the student, upon concurrence of a majority of the committee, may arrange a time for a re-examination not less than 30 nor more than 120 days after the first examination. Students who fail the fi-

nal orals on their second attempt will be ineligible for the master's degree from the Department of Geology.

Two copies of the approved thesis must be presented to the Graduate School at least three weeks prior to graduation, and a third copy must be presented to the Department of Geology.

Requirements for the Doctor of Philosophy Degree

Students entering the doctoral program in geology should meet, as a minimum, the requirements for the master's degree program listed above. However, exceptional students may be considered for direct baccalaureate degree entry or accelerated entry into the doctoral program. This requires approval by a majority vote of the faculty.

The Ph.D. degree program in geology is based primarily on the student's successful conduct of original research and presentation of an acceptable dissertation describing the results of that research. To achieve this goal, the student must meet the criteria established by the University, the Graduate School, and the Department of Geology as described below.

Students having completed a master's degree program or its equivalent must, upon entering the Ph.D. program, submit themselves to a preliminary counseling conference at the beginning of their first semester in the program. The format of the preliminary counseling conference is established by the faculty, and a copy of the procedures may be obtained in the departmental office. The purpose of this conference is to allow the students and their advisers to establish a suitable curriculum and research program commensurate with their backgrounds, interests, and professional goals. Nevertheless, each student is expected to take graduate level courses (excluding readings, independent studies, and internship) of at least 3 credits each from at least 4 different faculty members at SIUC, 3 of whom must be in the Department of Geology. The normal post-master's credit requirement is 60 semester hours, 30 of which may be 600-level dissertation credits.

Before the end of their second year in the program, students shall have (1) established a dissertation committee including their adviser and 4 additional members, one of whom must be from a department other than geology; (2) demonstrated competence in at least one research tool (the student's advisory committee will determine the requirements and research tool competence); and (3) presented themselves to the advisory committee for a preliminary written and oral examination. The format of the preliminary examinations shall be established by the faculty and a copy of the procedures may be obtained in the departmental office. Students who fail the preliminary examinations and wish to remain in the program may, with faculty consent, retake the examinations during one of the next two examination periods. Students who fail the second written-oral examination will be dropped from the program. A student having passed the preliminary examinations and having demonstrated competence in at least one research tool as required by the advisory committee, shall be admitted to candidacy for the Ph.D. degree. A second research tool, if required by the advisory committee, must be mastered before the candidate may defend the dissertation.

As a candidate for the degree of Doctor of Philosophy in geology, the student is expected to make normal progress toward the successful completion and presentation of original research. The students must complete all requirements for the degree within a 5 year period after admission to candidacy. Ordinarily, the doctoral student should expect to spend a minimum of 2 years beyond the master's degree, or its equivalent, in residence. Students will be required to present an acceptable dissertation describing original research performed with minimal su-

pervision and deemed by the advisory committee to be of such quality as to merit publication in an appropriate professional journal.* A final oral examination will be held after completion of the doctoral dissertation. This examination will concentrate on the defense of the dissertation but is not restricted to the dissertation topic or area.

(This program is currently under revision.)

Assistantships

Teaching assistantships are awarded and supervised by the Department of Geology. Research assistantships are usually available only from research grants of individual faculty members and are supervised by the faculty member in receipt of the sponsoring grant. Research assistantship awards require prior approval of the assistantship committees of the department.

As a matter of policy, the Department of Geology does not ordinarily provide any student working for a master's degree financial support for more than two years. A Ph.D. candidate will not ordinarily be supported for more than 3 years post master's or master's equivalent. Requests for relaxation of this policy must be made in writing to the department chair.

Courses (GEOL)

Courses with a laboratory may require purchase of a laboratory manual and a supply fee. All courses requiring field trips may have a field trip fee of \$2 to \$7.

* Two research tools are required. The research tool is a practical knowledge of a foreign language or a computer language.

412-3 Advanced Petrology. In-depth study of the rock forming processes. The relations of rock forming processes to petrographic analysis will be emphasized. Laboratories will deal with hand-specimen and thin-section analysis from selected rock suites with genetic modeling of the resulting data. Prerequisite: 310, 315.

413-3 Quantitative Methods of Geology. An introduction to quantitative methods in a geological and earth sciences context. Topics introduced include sampling plans for geologic studies, non-parametric test of geological data, comparisons of geological samples, analysis of sequential geological data. Laboratories will deal with numerical examples from all areas of geology. Prerequisite: advanced standing and consent of instructor.

414-3 Paleobotany. (See Plant Biology 414.)

415-3 Optical Mineralogy. The optical properties of minerals and the use of the petrographic microscope for identification of crystals by the immersion method and by thin section. Lecture, laboratory. Prerequisite: 310, Physics 203b or 205b.

417-3 Isotope Geochemistry. Stable and radioactive isotopes and the applications of isotopic studies to igneous and metamorphic petrology, ore deposits, sedimentology, surface processes, geothermometry and geochronology. Introduction to isotopic techniques and mass spectroscopy. Laboratory or research project required. Prerequisite: 310, 315 and 325 or consent. Recommended: Physics 203, Mathematics 150 and Geology 419.

418-3 Low Temperature Geochemistry. The application of chemical principles to geologic processes that occur on and near the earth's surface. Lecture, laboratory. Prerequisite: 310, Chemistry 200, 201, 210, 211 or equivalent.

419-3 Ore Deposits. Overview of the occurrence, geology and origin of metalliferous mineral deposits. Geologic principles and research techniques important to the understanding of mineral deposits. Introduction to exploration and mining methods. Lectures, laboratories and field trips. Prerequisite: 302, 315.

420-3 Petroleum Geology. The geological occurrences of petroleum including origin, migration and accumulation; a survey of exploration methods, and production problems and techniques. Laboratory study applies geological knowledge to the search for and production of petroleum and natural gas. Prerequisite: 221, 224.

421-3 Organic Geochemistry. The nature, origin and fate of natural and artificial organic materials in rocks and sediments. Topics include characterization of fossil fuels using biological marker compounds, petroleum source rock evaluation, and organic pollutants in the environment. Prerequisite: 325 or consent of instructor.

425-3 Invertebrate Paleontology and Paleocology. Concepts of paleontology and paleocology. Emphasis on functional morphology, lifestyles and habitats of fossil invertebrates and algae. The nature and evolution of marine and coastal paleocommunities. The effects of extinction events on paleocommunities and biodiversity. Laboratory. Prerequisite: 325 or a biology course.

428-3 Paleocology and Environments of Deposition. Characteristics, distribution, and classification of recent and ancient environments. Criteria for recognizing ancient environments. Sedimentological and paleocological approaches. Recognition of ancient environments and environmental associations. Laboratory. Field trips

required. Prerequisite: 425, 325 or concurrent enrollment.

434-3 Engineering and Environmental Geophysics. Geophysical methods used in engineering and environmental site characterization and assessment and the geophysical detection of environmental hazards. Field trips required. Prerequisite: Physics 203a or 205a, 203b or 205b, Mathematics 150.

435-3 Solid-Earth Geophysics. Earth's size, shape, mass, age, composition, and internal structure are reviewed in detail as understood from its volcanism, gravity and magnetic fields, seismicity and motion of continents and ocean basins; plate tectonics. Prerequisite: 302, Mathematics 150 or consent of instructor.

436-4 Elementary Exploration Geophysics. Theory and practice of geophysics as applied to the exploration and development of natural resources. Laboratory involves use of geophysical instruments and interpretation of data. Field trips required. Prerequisite: 220 or 222; 223, Mathematics 150.

437-3 Field Course in Geophysics. Use of geophysical equipment for collection, analysis and interpretation of seismic, gravity, magnetic, electrical and other types of geophysical data. Prerequisite: 436 or consent.

440-1 to 4 Advanced Topics in the Geological Sciences. Individual study or research or advanced studies in various topics. Prerequisite: advanced standing and consent of instructor.

445-3 Museum Studies in Geology. History, nature and purpose of geology in museums, relationships of geology to other museum disciplines, application of geologic methods to museum functions, preparation and preservation of specimens; nature, acquisition and utilization of geologic collections in museums, role of research in museums.

450-2 Introduction to Field Geology. Introduction to field techniques, principles of geologic mapping and map interpretation. Field trip fee \$5.00. Prerequisite: 302, 315 or concurrent enrollment.

454-6 Field Geology. Advanced field mapping in the Rocky Mountains, including problems in stratigraphy, structure, petrology, paleontology, geomorphology, and economic geology. Transportation cost approximately \$150, supplies \$6. Prerequisite: 302, 315; 450 recommended.

460-3 Geological Data Processing. Computer applications to geological problems including the processing and programming of data and the interpretation and evaluation of results. Lecture, laboratory. Prerequisite: Engineering 222 or Computer Science 202.

462-3 Fundamentals of Structural Geology II. Intermediate topics in structural geology including strain theory, field strain analysis, geometry of complex mesoscopic structures and introduction to dislocations, deformation history and microfabric analysis. Hypotheses and orogenesis are discussed and evaluated. Lecture and assigned problems only. Prerequisite: 302 or equivalent.

466-3 Tectonics. Fundamentals of geodynamics applied to plate tectonics: mantle composition and rheology, deformation of the lithosphere, structural characteristics of plate margins, stability of triple junctions, diachronous tectonics, and orogenesis

will be examined in detail. Prerequisite: 302, Mathematics 150 or consent of instructor.

470-3 Hydrogeology. Study of the distribution, origin and movement of groundwater and the properties of geologic materials that control groundwater flow and contaminant transport. Geology majors must also take 471 concurrently. Prerequisite: 220 or 222; 223; Mathematics 150, or consent of instructor.

471-1 Hydrogeology Laboratory. Problem sets, laboratory experiments and field exercises in hydrogeology. Geology majors must take this course concurrently with 470. Prerequisite: 220 or 222; 223; Mathematics 150; or consent of instructor.

474-3 Geomorphology. Study of erosional and depositional processes operating at the earth's surface and landforms resulting from these processes. Relationship of processes and landforms to the geologic framework is examined. Laboratory. Prerequisite: 220 or 222; 223.

476-3 Quaternary Geology. Methods used to identify, map, date and correlate Quaternary deposits and interpret Quaternary history. Covers glacial, fluvial, coastal, lacustrine and eolian chronologies, oxygen-isotope records from ocean sediments and continental ice cores, volcanic activity and Quaternary climate change. Field trips required. Prerequisite: 220 or 222; 223, 221, 224; or consent of instructor; 474 recommended.

478-3 Advanced Environmental Geology. Application of principles of geomorphology and Quaternary geology to environmental problems and geologic hazards. Lectures and case studies emphasize neotectonics, volcanic hazards, landslides and other mass movements, floods, river channel changes and coastal erosion. Prerequisite: 474; 476 recommended.

480-3 Geology of Coal. Geology as related to exploration, development and mining of coal; stratigraphy, sedimentation and structure of coal deposits; type of coal basins and their tectonic setting; concepts of cyclical deposition in coal basins; origin of splits and partings in coal seams; relationship of modern environments and ancient coal-forming environments; structural problems relevant to exploration and mining of coal; methods of resource evaluation. Three 1-hour lectures week; five half-day field trips. Prerequisite: 220 or 222; 223, 221, 224, 302, 325, or consent of instructor.

481-3 Sedimentary Basin Analysis. The use of stratigraphy, structure, sedimentology and geophysics to determine the paleogeographic evolution of sedimentary basins. Topics include the study of the relationships between host strata and both primary and post-depositional non-renewable resources, plate tectonics and basin evolution and subsurface geologic methods. Prerequisite: consent of instructor.

482-3 Coal Petrology. Structural features and microscopy of coal seams. Origin and alteration of coal constituents. Includes field trips, study of coal specimens and techniques. Prerequisite: 220 or 222; 223, 221, 224; or consent of instructor.

483-3 Forensic Geology. An introduction to the use of geological materials and techniques in criminal investigation. Details from actual criminal cases will be used as examples in all the topics covered which include rock and mineral types, geological and topographic maps, fossils, sand,

soils, spores and pollen, geological building materials, art fraud and gemstones. Techniques covered will include optical microscopy, scanning electron microscopy, and x-ray diffraction.

500-1 to 2 Teaching for Geology Graduate Students. To help teaching assistants develop skills in conducting laboratory work and leading discussions. One hour required for all teaching assistants in geology. Graded *S/U* only.

510-2 Advanced Sedimentology. Basic principles of field observation, field and laboratory sampling, and data analysis of clastic sedimentary rocks; introduction to laboratory techniques; introduction to statistical, physical and empirical models in sedimentary geology. Field trips required. Prerequisite: 325 or 474.

515-3 Instrumental Analysis in Geology. An introduction to modern methods of instrumental inorganic geochemical analysis that are particularly important in the geology sciences. This includes both operational theory and practical application of methods for the analysis of minerals, rocks and aqueous solutions. Lecture, laboratory. Prerequisite: 310, Chemistry 222 or equivalent, and consent of instructor; 418 recommended.

517-2 to 9 (2 to 6 per semester) Advanced Topics in Geochemistry. Specialized topics in geochemistry. Topics covered might include thermodynamic modeling of mineral-solution equilibria, the role of kinetics in mineral-solution reactions, experimental hydrothermal geochemistry or other topics to be announced by the department. Maximum credit nine semester hours. Prerequisite: 418 or consent of instructor.

518-3 Clay Mineralogy. Study of the structure, chemistry, origin, and geologic importance of clay minerals. Industrial and other applications of clays. Lecture, laboratory. Prerequisite: 310 or consent.

520-2 to 9 (2 to 6 per semester) Advanced Topics in Igenous and Metamorphic Petrology. Petrologic principles and their relationships and other selected topics to be announced by the department. Prerequisite: consent of instructor.

522-3 Sedimentary Petrology—Siliciclastics. The petrography and petrology of siliciclastic rocks, emphasizing sandstone. Microscopic studies of composition and components of detrital clastic rocks, their origin, provenance, characteristics, diagenesis, cementation and lithification. Prerequisite: 325 or 415 or consent; 520 or 521 recommended.

523-3 Sedimentary Petrology—Carbonates. The origin, classification, diagenesis, and geochemistry of carbonate rocks, with emphasis on petrographic analysis. Study of recent carbonate depositional environments. Laboratory required. Prerequisite: 325, 418 recommended.

524-2 to 9 (2 to 6 per semester) Advanced Topics in Sedimentary Geology. Advanced topics in sedimentary geology. Topics may include clastic depositional environments, carbonate depositional environments; diagenesis of sedimentary rocks, and other topics to be announced by the department. Prerequisite: 428 or 522 or 523 or consent of instructor.

525-2 to 6 (2 to 3 per semester) Advanced Topics in Invertebrate Paleontology. Lectures, readings, field and laboratory studies, including techniques and quantitative methods of

study. Preparation for research in paleontology. Topics may include corals, bryozoans, brachiopods, mollusks, echinoderms, biostratigraphy, tempo and mode of invertebrate evolution and other topics to be announced by the department. Maximum credit six semester hours. Prerequisite: 425 or consent of instructor.

526-3 Advanced Topics in Applied Paleocology. Lectures, field, and laboratory studies, including techniques and quantitative methods. Preparation for research in paleocology. Emphasis on using fossil marine invertebrates and trace fossils to interpret ancient sedimentary environments. Prerequisite: 428 or consent.

535-1 to 9 (1 to 6 per semester) Advanced Topics in Geophysics. Specialized topics in geophysics. Examples include but are not limited to seismic stratigraphy, mid-continent seismicity, isostasy, data processing techniques. The topic to be covered is announced by the department. Maximum credit nine semester hours. Prerequisite: 435 or 436 or consent of instructor.

536-3 Earthquake Seismology. Observational seismology. Topics include earthquake source mechanisms; propagation, reflection and refraction of elastic waves; ray theory; dispersion of surface waves; the effect of earth structure on the seismogram; and the seismograph. Research projects will be conducted using data from the SIU Geophysical Observatory. Prerequisite: 435 or 436, Mathematics 150 or consent of instructor.

537-3 Applied Seismology. Study of the seismic reflection techniques, including theory and methods of collection and analysis of seismic reflection data, the seismic method, waveform analysis, and digital filtering with computer applications and seismic instrument characteristics. Prerequisite: Mathematics 150 or consent.

538-6 (3,3) Gravity and Magnetism. (a) Gravity. Study of gravitational methods used in the solution of geological problems; topics include theory, field operations, data reduction, anomaly separation, two and three-dimensional analysis, and interpretation. (b) Magnetism. Study of magnetic methods used in the solution of geological problems; topics include theory, origin, time variations and induction, paleomagnetism, magnetic properties of earth materials. Field operations, anomaly separation, and interpretation. Prerequisite: 435 or 436, Mathematics 150 or consent of instructor.

550-4 Advanced Economic Geology. In-depth examination of the geologic characteristics, classification and origin of metallic mineral deposits. Aspects of mineral exploration and mining techniques are also discussed. Laboratory exercises emphasize hand specimen and petrographic study of ore and host rock suites. Field trips required.

555-1 to 6 (1 to 3 per semester) Advanced Topics in Economic Geology. Advanced study in a specific area of economic geology to be determined by course participants. Course content may focus on a specific type of mineral deposit or such topical areas as field characteristics, mineral exploration techniques, stable isotope geochemistry, fluid inclusion studies and hydrothermal processes. Maximum six credit hours. Prerequisite: 550.

565-3 Rock Deformation and Structural Systems. Advanced topics in structural geology with

emphasis on theoretical and experimental study of rock deformation and analysis of complex structural systems. Lecture and assigned problems only. Prerequisite: 462.

566-3 Advanced Topics in Structural Geology. Lectures, readings, and discussion of advanced aspects of rock deformation: dislocation theory and its applications to flow processes of rocks; experimental rock deformation; incremental and finite strain theory and analysis; and recent developments in structural geology. Prerequisite: 565.

570-3 Advanced Hydrogeology. A combination of lectures, seminars, and independent studies of advanced topics in hydrogeology, particularly geochemistry and the response of aquifers to stresses such as tides, recharge and saline intrusion. Prerequisite: 470.

576-3 Coastal Geomorphology and Sedimentology. Detailed examination of coastal processes and clastic coastal depositional systems. Coastal storms, wave processes, tidal systems, sea level changes, coastal sediment transport, deltaic, barrier island-strandplain, estuarine depositional systems and coastal stratigraphic sequences. Field trip to Louisiana and Texas Gulf Coast. Field trip fee of \$25 may be incurred. Prerequisite: 474 or consent of instructor.

577-2 to 9 (2 to 6 per semester) Advanced Topics in Surficial Geology. Studies of processes, landforms, and deposits in the surface or near surface geologic setting. Selected topics to be announced by the department. Maximum credit nine semester hours. Prerequisite: consent of instructor.

578-3 Fluvial Geomorphology. Detailed study of fluvial processes and landforms within the context of major concepts in geology and geomorphol-

ogy. Topics include drainage basins, hydro-climatology and surface water hydrology, channel processes, fluvial depositional systems, paleohydrology and changes in fluvial systems through time. Prerequisite: 474 and consent instructor.

579-3 Soil Geomorphology. Study of geomorphologic applications of soils. Covers the effects of time, climate, parent material, topography, eolian additions on soil development, classification and chemistry; soil indices; pedogenic thresholds; paleosols; use of soils to evaluate landform age, landform stability, Quaternary stratigraphy, faulting and climate fluctuations. Field trips required. Prerequisite: 474 or consent of instructor.

582-1 to 6 (1 to 3 per semester) Advanced Coal Petrology. Microscopy, source materials, coalification, constitution, and classification of peats, lignites, bituminous coal, anthracite; applications to industrial problems. Prerequisite: 482.

591-1 to 6 Individual Research in Geology. Investigations in geology other than those for theses or dissertations.

599-1 to 6 Thesis. Minimum of three hours to be counted toward a Master's degree.

600-1 to 30 (1 to 16 per semester) Dissertation. Research for and writing of the doctoral dissertation. Prerequisite: consent of instructor.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Health Education

E-mail: mccowen@siu.edu

COLLEGE OF EDUCATION

Aaron, James E., Professor, *Emeritus*, Ed.D., New York University, 1960; 1957.

Boydston, Donald N., Professor, *Emeritus*, Ed.D., Columbia University, 1949; 1955.

Bridges, A. Frank, Professor, *Emeritus*, D.H.S., Indiana University, 1952; 1947.

Dinger, Mary K., Assistant Professor, Ph.D., University of Missouri, 1993; 1997. Program evaluation, worksite health promotion, physical activity and health, nutrition, human sexuality, instrument development.

Drolet, Judy C., Professor, Ph.D., University of Oregon, 1982; 1982. Human sexuality, sexuality education, mental health, professional preparation, foundations of health education.

Fetro, Joyce V., Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1987; 1997. Professional preparation, curriculum development, program planning, death education, substance use prevention, youth development, program evaluation, research design, marketing and advocacy, program administration/management.

Grissom, Deward K., Professor, *Emeritus*, Ed.D., Columbia University, 1952; 1956.

Kittleson, Mark J., Professor, Ph.D., University of Akron, 1986; 1989. AIDS, program planning, stress management, research design, vital statistics, teaching strategies, and technology.

Lacey, Ella P., Associate Professor, *Emerita*, Ph.D., Southern Illinois University at Carbondale, 1979; 1979.

LeFevre, John R., Professor, *Emeritus*, Ed.D., Teachers College, Columbia University, 1950; 1955.

O'Dell, Irma, Assistant Professor, Ph.D., University of New Mexico; 1992; 1995. Leisure across the lifespan, community life satisfaction and quality of life, leisure education and aggressive behavior in recreational activities.

Ogletree, Roberta J., Associate Professor, H.S.D., Indiana University, 1991; 1991. School and college health education, curriculum development, women's health, human sexuality education, professional preparation, health issues and aging.

Phillips, Frances K., Associate Professor, *Emerita*, M.A., Columbia University, 1940; 1944.

Richardson, Charles E., Professor, *Emeritus*, Ed.D., University of California, Los Angeles, 1959; 1954.

Ritzel, Dale O., Professor, Ph.D., Southern Illinois University at Carbondale, 1970; 1966. Injury control, occupational health and safety, child safety, computer applications, research design, the internet, traffic safety.

Russell, Robert D., Professor, *Emeritus*, Ed.D., Stanford University, 1954; 1965.

Sarvela, Paul D., Professor, Ph.D., University of Michigan, 1984; 1986. Program evaluation, community health and epidemiology, needs assessment and strategic planning.

Sliepcevich, Elena M., Professor, *Emerita*, D.P.E., Springfield College, 1955; 1973.

Vitello, Elaine M., Professor, Ph.D., Southern Illinois University at Carbondale, 1977; 1977. Community health, content analysis, health care advertising, professional preparation, professional ethics.

Welshimer, Kathleen J., Associate Professor, Ph.D., University of North Carolina at Chapel Hill, 1990; 1990. Community organizing, women's and children's health, health psychology, community assessment and planning process.

Zunich, Eileen M., Assistant Professor, *Emerita*, Ph.D., Southern Illinois University at Carbondale, 1970; 1967.

The Department of Health Education and Recreation offers a graduate program leading to the Master of Science in Education degree. Persons interested in pursuing course work in school health education, community health education, or occupational and environmental health should initially consult the department chair regarding appropriate courses and assignment to an adviser.

Application / Admission. Requirements for admission to the master's degree program in health education are:

1. Completion and submission of Graduate School admission application; A non-refundable application fee of \$20.00 must be submitted with the application. Attach your check or money order, payable to Southern Illinois University, to the top of the application form. Do not send cash. Only checks or money orders payable to United States banks will be accepted.
2. Completion and submission of Department of Health Education and Recreation admission application that includes a 300–500 word statement regarding experience, career goals, and research interests.
3. Submission of three letters of recommendation.
4. Submission of Miller Analogies Test (MAT) score. The MAT is available through the Testing Center on the SIUC campus and is available also throughout the U.S. through testing centers on university or college campuses. Testing schedules and fees vary among testing centers.
5. Submission of **all** official transcripts for previous undergraduate and graduate work.

All specified application materials must be submitted directly to the Department of Health Education and Recreation, Southern Illinois University at Carbondale, Carbondale, Illinois 62901-4632. Further information may be obtained by calling 618-453-2777.

Application deadline for summer and fall admission is February 15; application deadline for spring admission is September 15.

Master of Science in Education Degree

Applicants for the master's degree must have a 2.70 undergraduate grade point average ($A = 4.0$) to be admitted in good standing.

Only graduate level courses taken after a student's admission will be included automatically in the student's degree program. "Unclassified" hours or hours from other degree programs must be petitioned into the program. Courses eligible for inclusion in a degree program must be graduate level and cannot have been applied toward another degree.

An applicant with an undergraduate grade point average below 2.70 but above 2.40 may petition the department for conditional admission. For these students, the following will apply:

1. A student must take 12 hours of graduate level work in health education with a grade point average of at least a 3.5. If then admitted to health edu-

cation, the student will be allowed to apply no more than 6 of those semester hours toward degree requirements.

2. Health Education 533a and 533b cannot be taken until a student is formally admitted to the graduate program in health education.

For potential health education graduate students with an undergraduate grade point average of 2.70 or better who are taking courses as unclassified students, the following will apply:

1. No more than 6 hours of graduate credit can be applied toward the master's degree in health education.
2. Health Education 533a and 533b cannot be taken until a student is formally admitted to the graduate program in health education.

M.S. Degree Requirements

A student must complete a minimum of 40 semester hours with the following core courses (26–29 hours) being required:

HED 401-3 Epidemiological Approaches to Disease Prevention and Control

EPSY 402-3 Basic Statistics (or equivalent)

HED 491-3 Health Teaching/Learning: School and Community

HED 500-3 Community Organization for Health Education

HED 526-3 Evaluative Approaches to Health Education

HED 533a-4 Foundations of Health Education I

HED 533b-4 Foundations of Health Education II

HED 599-3 to 6 Thesis

Each student will work with an adviser to select an additional 11–14 hours from courses within the Department of Health Education and Recreation or related courses from other departments.

With adviser approval, HED 491-3 may be waived if the student has completed a health education methods course as an undergraduate student or in another graduate program or provides evidence of formal teaching experience.

Doctor of Philosophy Degree in Education

The Department of Health Education and Recreation participates in the doctoral program with a concentration in health education. Other than general requirements of the Graduate School for all Ph.D. degrees, and of the College of Education for all Ph.D. degrees in education, the Department of Health Education and Recreation requires satisfactory completion of HED 500, 510, 515, 525, 526, 533a, 533b, 536, and 597-2. Programs are individually developed with each student. Successful completion of EPSY 506 and one additional course in quantitative or qualitative methods is required for fulfillment of the research tool for students in the Department of Health Education and Recreation. The course of study must include one additional research methods course (if the research tool is quantitative, then the additional methods course must be qualitative and vice versa.) A *B* average is required in the three courses.

See the description of the Ph.D. degree in education in this chapter for further details.

Inquiries regarding application should be directed to the chair of the Department of Health Education and Recreation.

Courses (HED)

400E-2 to 3 Health Appraisal of School Children-Special Topics. Includes the screening, testing and evaluation for numerous health conditions related to hearing, vision, the cardiovascular system, skin, spine and such diseases as diabetes, tuberculosis, herpes and other such ailments. Included will be classroom lectures and presentations, a supervised practicum and all students

will develop a viable program in a particular problem area in a public school program.

401-3 Epidemiological Approaches to Disease Prevention and Control. Principles and practices in the cause, prevention and control of diseases in various community settings. Prerequisite: 301 and 305 and consent of instructor.

402-3 Death Education. Designed to prepare educators to conduct learning experiences about death and dying in a variety of school, college, medical care, and community settings. Stress will be placed on developing brief, functional curricula and usable, imaginative teaching-learning materials and on evaluating resource materials for use in educating at various levels of maturity.

403-3 Health Advocate Training. Provides students with knowledge and skills in the areas of peer health education, health advocacy and referral. Instruction includes health care information from a wellness point of view. Prepares students for practicum in health advocate program. Credit will not count toward a Master's degree in health education. Prerequisite: consent of instructor.

405-3 Sex Education. Examines various programs of sex and family life education in schools, recognizing a range of community attitudes. Prerequisite: 301 and 305 for undergraduate health education majors.

407-3 Drug Education. Meets requirements of Illinois state law for education concerning drugs including alcohol for grades K-12. Explores motivations behind use and abuse of drugs. Offers experiences in development of curriculum and teaching approaches and material.

410-3 Human Sexuality. Provides detailed in-depth information on such topics as philosophical views of sexual behavior, sex techniques, sex therapy, sexual variations, sexual anatomy and physiology, including the sexual response and changes with age and sexual development in childhood.

411-6 Emergency Medical Technician in the Wilderness. Placement of trained emergency medical technicians into a wilderness situation and having them adopt previously learned skills and newly developed skills. Prerequisite: 310 or 434.

430-3 Health and Injury Control in A Work Setting. (Same as Industrial Technology 430.) Assesses the health and injury control programs present in a work setting. Emphasis given to employee programs in health, wellness and injury control that are effective. Field trips to work sites are included.

434-4 Advanced First Aid and Emergency Care. Meets the needs of those in positions where a complexity of first aid emergency care procedures are needed. American Red Cross and American Heart Association certification may be obtained. Materials purchased from the American Red Cross and/or the American Heart Association are required in this course. Consent of instructor required.

440-3 Health Issues in Aging. Students enrolled in the course will be involved in a wide variety of learning activities focusing on health needs of the elderly. The course is designed for students who have a special interest in health implications of aging.

441-3 Women's Health. The course deals with a wide variety of health concerns of American women as consumer in the current health marketplace. Major categories of topics include health products, health services and sources of health information of particular interest to women. Emphasis is also placed on current health related issues of women. The major purpose of the course is

to provide a basis for informed decision-making by the female consumer.

442S-5 Driver and Traffic Safety Education — Practicum. Provides prospective teachers with simulation, range, and on-road teaching experience with beginning drivers. Students may be required to purchase materials not to exceed \$15. Prerequisite: 302S.

443S-3 Driver and Traffic Safety Education — Program Administration. Emphasizes administration, reimbursement, scheduling, public relations, planning and evaluation of driver education. Prerequisite: 442s or consent of instructor.

445-3 Advanced Driver Education Instructor Training. Prepares prospective instructors of advanced driving techniques. Emphasis is placed upon safe driving practices, vehicle dynamics, emergency vehicle operation, in-car response to simulated driving emergencies and instructional techniques. Prerequisite: consent of instructor.

446-4 Motorcycle Rider Education Instructor Training. Provides prospective teachers with on-cycle teaching experience with beginner riders. Addresses program administration, scheduling, public information techniques, equipment procurement, evaluation and instructional technology. Certification as Motorcycle Rider Course Instructor can be obtained. Materials purchased from the Motorcycle Safety Foundation are required in this course. Prerequisite: consent of instructor.

450-3 Health Programs in Elementary Schools. Orientation of teachers to health programs and learning strategies. Designed for elementary education majors.

455-3 Computer Applications in Health Education. Designed for students with little or no previous experience with computers. The course will be applications oriented, with an introduction to the potential uses of computers in the field of health education.

461-1 to 12 Health Education Workshop. A different focal theme each year; e.g., mood modifying substances, ecology, human sexuality, emotional and social health dimensions. Information, ideas, and concepts are translated into teaching-learning materials and approaches; continuing opportunity for interaction between prospective and experienced teachers.

470S-3 Highway Safety as Related to Alcohol and Other Drugs. Relationship between alcohol and other drugs and traffic accident causes. A review of education programs designed to minimize drug related accidents. Prerequisite: advanced standing or consent of instructor.

471-2 Health Education Instructional Strategies. This course is designed for graduate students who are teaching assistants in the Department of Health Education. The purpose of the course is to enhance professional skills of those who are responsible for teaching health education, general education and first aid.

476-3 Stress Management. A study of the physiological, emotional and sociological stressors and their underlying mechanisms in states of disease and health. Particular emphasis is placed upon prevention and control of stress via self assessment techniques and proficiency in self control techniques such as biofeedback, autogenic train-

ing, meditation and progressive muscle relaxation.

480S-3 Traffic and Driver Education Program Development. Acquaints students with curriculum innovation, current philosophy, learning and teaching theories, and instructional designs. Students will develop learning packages and modules. Prerequisite: 443s or consent of instructor.

483-3 Community Health Administration in the United States. Background and development of community health administration structures in the United States; the dynamics and trends evolving from current health and medical care programs and practices. Prerequisite: 355.

485-3 International Health. Health beliefs, values and practices of peoples in various cultures as related to a total way of life of potential value to both prospective teachers and students in other fields.

488-3 Environmental Dimensions of Health Education. Application of the principles of learning to understanding people interacting with their environment. Emphasis placed upon individual and community responsibilities for promoting environmental health. Rural and municipal sanitation programs and practices are included.

489-3 Introduction to Vital Statistics. An introduction to bio-statistics; examination of theories of population projections; collection, organization, interpretation, summarization and evaluation of data relative to biological happenings with emphasis on graphic presentation.

490-2 to 6 Field Experiences in School, Community Health or Safety Education. Field observation, participation and evaluation of current school or community health education or safety programs in agencies relevant to student interests. Prerequisite: 301, 305, 326, 355, 491 and consent of instructor.

491-3 Health Teaching/Learning: School and Community. Teaching and learning strategies at secondary school levels and in other community group settings. Opportunities to examine and observe a variety of educational strategies applicable to health education. Prerequisite: 301 and 305; 405 and 407 or concurrent enrollment for undergraduate health education majors.

496-4 Industrial Hygiene. Provides a background in the recognition, evaluation and control of toxic materials and hazardous physical agents in the work environment. Prerequisite: consent of instructor.

499-3 Rx: Education in Health Care Settings. Designed for members and potential members of the health care team to explore educational concepts and strategies applicable to a variety of health care settings. Includes rights and responsibilities of consumer and professional, determinants of health behavior, contrasting models of health care, communication skills, media and materials and planning, implementing and evaluating educational programs. Open to medical and dental personnel, nurses, health educators, dietitians, therapists, pharmacists, social workers and related professionals.

500-3 Community Organization for Health Education. Theory and practices in community organization for health education; group work

methods and leadership theories are explored. Field observations required.

510-3 Program Planning and Curriculum Development in Health Education. In this course similarities as well as differences between program planning and curriculum development will be examined. For both areas current theories, models and designs will be analyzed. The importance of and procedures for developing philosophy, goals and objectives will be studied. Processes used in selection of content, learning approaches, resource teaching/learning materials will be investigated. Implementation and evaluation issues will be addressed.

511-3 Health Education Conference Practicum. A summer practicum course taken in conjunction with 461, 462 or 463. Participants help plan the conference, analyze activities, suggest alternatives, assume leadership responsibilities, prepare conference proceedings and design a comparable experience with another focal theme. Prerequisite: consent of instructor.

515-3 Review of Current Literature in Health Related Fields. Develops a broad philosophical framework for health education and safety education, examining a variety of professional materials for their relevance to such a framework. Reading, reporting, discussing, and interacting in relation to issues of contemporary and future concerns by conceptualizing health as a process in the realization of individual and societal goals.

520-3 Special Projects in Health Education. Study of problems in health education and safety education culminating in a research paper.

525-3 Health Behavior and Health Education. Examines health-related motivation and behavior through the study of relevant psychological, sociological, and educational theory and research. Emphasis is on application of behavioral and behavior-change theories and constructs in designing effective health education and promotion programs.

526-3 Evaluative Approaches to Health Education. Survey and analysis of health testing and evaluation procedures, uses and limitations of knowledge and attitude tests, behavioral inventories, check lists, questionnaires, interviews and other techniques.

530S-3 Research in Traffic Safety. A study of unique problems related to traffic safety and a review and evaluation of contemporary studies. Prerequisite: graduate standing or consent of instructor.

533A-4 Foundations of Health Education I. Historical and philosophical foundations of health education dealing with principles of the discipline and preparation for services as a professional. Consideration of theoretical models of health and health education, professional ethical issues and future directions.

533B-4 Foundations of Health Education II. Health education programs and program development and the interrelation of these with research and evaluation. Consideration is given to ethical, legal and political issues affecting health education. Prerequisite: 533a.

536-3 Professional Preparation in Health Education. Considers national, state and local factors influencing professional preparation, ac-

creditation and certification processes. Emphasis upon influences of official and non-official agencies. Historical perspective, the present status, and future directions of the profession.

541-3 Issues in Health Care. Examination of current and continuing issues in the provision, administration, financing and regulation of health care services. Prerequisite: 483 or consent of instructor.

550S-3 Current Developments in Traffic and Safety Education. Current problems, trends and research studies in traffic and safety education are reviewed, critiqued and evaluated.

555S-3 Traffic Safety Management. Course deals with highway safety legislation and other acts related to traffic safety. Application of safety management techniques, procedures and structure of federal and state agencies are emphasized. Prerequisite: consent of instructor.

590-8 Practicum in Community Health. Students are assigned full-time to a community health agency for experiences in health education. Restricted to those specializing in community health.

592-8 Practicum in Safety and Industrial Health. Students are assigned full-time to a safety agency or industry for experience in either safety or industrial health. Restricted to those

specializing in safety industrial health. Prerequisite: consent of instructor.

597-1 Seminar in Health Education. Advanced graduate students discuss individual health projects and present research problems. Each will present a dissertation prospectus. Students must register for one hour for two different semesters.

598-3 Institute: Writing Research Proposals. Consideration is given to funding sources, proposal guidelines, procedures for support, budgetary requirements and evaluation procedures. Students examine different types of funded projects, develop a research prospectus and analyze the art of grantsmanship and political action.

599-1 to 6 Thesis.

600-1 to 32 (1 to 16 per semester) Dissertation.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Higher Education

E-mail: dmibb@siu.edu

COLLEGE OF EDUCATION

Casebeer, Arthur L., Professor, *Emeritus*, Ed.D., Oregon State University, 1963; 1969.

Graham, Jack W., Professor, *Emeritus*, Ph.D., Purdue University, 1951; 1951.

Keim, Marybelle C., Professor, Ph.D., Michigan State University, 1972; 1986.

Spees, Emil R., Associate Professor, *Emeritus*, Ph.D., Claremont Graduate School, 1969; 1969.

Wallace, James A., Jr., Assistant Professor, Ph.D., Texas A&M University, 1993; 1994.

Graduate Study in Higher Education

The Department of Educational Administration and Higher Education provides graduate study leading to the Master of Science in Education degree in higher education.

The graduate program in higher education offers students an opportunity to study and explore the concept of higher education as a field of study. The faculty of this program encourages and assists students in developing a lifetime commitment to the study of higher education. They also provide pre-service and in-service preparation for persons who are teaching or serving as administrators or who expect to teach or serve as administrators in two-year and four-year colleges and universities, and related post-secondary educational institutions and agencies.

FINANCIAL AID

The Department of Educational Administration and Higher Education assists students in their efforts to find financial support. Graduate assistantships are available throughout the University in different administrative offices and residence halls. Students wishing to expand their administrative and teaching skills through a variety of paid experiences should consult their academic advisers about possible financial assistance, including graduate fellowships and special awards. Since a personal interview is required for most graduate assistantships, applicants should work with departmental faculty to arrange a campus visit as

early as possible. A very limited number of paid internships are available through neighboring institutions.

THE MASTER OF SCIENCE IN EDUCATION DEGREE

The Department of Educational Administration and Higher Education offers a program in higher education leading to the Master of Science in Education degree. The emphasis of this degree is to provide individuals with the background and skills important to accepting a wide range of teaching and administrative positions in higher education.

Application. Inquiries requesting application materials should be directed to the chair of the Department of Educational Administration and Higher Education.

A non-refundable application fee of \$20.00 must be submitted with the application. Attach your check or money order, payable to Southern Illinois University, to the top of the application form. Do not send cash. Only checks or money orders payable to United States banks will be accepted.

Admission and Retention. Students applying for admission are encouraged to have some leadership experience prior to starting graduate study. Students who expect to complete a program to prepare them for teaching in a community college are expected to have an undergraduate major in a subject area commonly taught in a community college.

Each applicant is considered for acceptance to graduate study on an individual basis with much consideration being given to evidence showing the applicant's commitment to the field of higher education as a career.

Each student works closely with an adviser in program preparation. Each student also has a committee that assists in reviewing the student's progress, in supervising the thesis or research paper, and in administering the final examination. The records of each master's degree student are reviewed periodically by the adviser to determine whether the student should continue in the program.

Program Requirements. Students will develop, with their individual adviser, a suitable sequence of courses that will be designed to assist them in attaining academic and professional objectives.

Community College Teaching (32 semester hours, minimum). Students who wish to teach in a community college must complete at least 20 semester hours in their teaching specialty and at least 12 hours in specified courses in educational administration and higher education, for a minimum of at least 32 semester hours. Students in this program must secure prior to admission a subject matter adviser from the faculty of the subject area who will agree to help plan the student's academic program.

The common core of courses required of students in this program includes the following:

- EAHE 516-3 College Students and College Cultures
- EAHE 518-3 College Teaching
- EAHE 524-3 Curriculum Design and Policy
- EAHE 526-3 The Community College

Students must also complete a minimum of 20 semester hours in their teaching specialty. The adviser will often recommend additional courses to assist the student in meeting special requirements. Recommended courses beyond the minimum requirements are:

- EAHE 500-3 Educational Research Methods
- EAHE 595-2 to 6 Internship or
- EAHE 599-3 Thesis

College Student Personnel (48 semester hours). This program is designed to prepare entry-level and middle management professionals to work in institutions of higher education in the general area of student affairs or student development services. Students must complete a minimum of 48 semester hours in courses designed to prepare them as a generalist in such fields as admissions, alumni relations, career development, financial aid, orientation, placement, residence life, and student activities/programming. Through elective coursework, students may personalize their programs to acquire a specialized emphasis in either student development or administration. Individuals interested in a specialized emphasis in counseling may complete a double major in higher education and in educational psychology.

The common core of courses for this program includes (33 semester hours):

EPSY 402-3 Basic Statistics (a higher level course may be substituted)

EAHE 500-3 Educational Research Methods

EAHE 508-2 Student Development Theories

EAHE 510-3 Higher Education in the United States

EAHE 513-3 Organization and Administration in Higher Education

EAHE 515-3 College Student Development: Operations and Policies

EAHE 516-3 College Students and College Cultures

EAHE 535b-2 Higher Education Seminar I: Law and Higher Education

EAHE 535s-4 Higher Education Seminar I: Professional Seminar in Student Affairs

EAHE 542-3 Contrasting Philosophies

EAHE 593/599-3 Individual Research/Thesis

EAHE 595-3 Internship

The elective coursework, a minimum of 15 hours, may be completed within the department, however, students are encouraged to select courses from multidisciplinary sources in consultation with their adviser. Students must complete the required credit internship in addition to the paid assistantship they secure as part of their admission to the program. It is essential that the credit internship experience be in a setting different than their paid assistantship.

Research Requirements (for all master's degree specializations within higher education). Each student shall demonstrate research competencies through writing an acceptable research paper or master's thesis (involves original research). Students who select the thesis option must have an approved prospectus on file at least 6 months in advance of the anticipated graduation date; they must enroll for 3 hours of EAHE 599, Thesis; and they must have a committee of at least 3 faculty members. Students who elect to write a research paper must have a committee of two faculty members, and are encouraged to enroll for three semester hours of EAHE 593, Individual Research.

Final Examination and Grade Requirements. All master's degree students are required to complete successfully a final examination which usually consists of a defense of the research paper or thesis. The exam may be written or oral or both. Students must complete at least 21 semester hours of graduate credit with grades of A, B, or C in courses graded A through F. Upon successful completion of all requirements, including at least a B average for all course work, the student is recommended to the Graduate School for graduation.

Courses (EAHE)

For a list of courses, see Educational Administration.

History

E-mail: history@siu.edu

COLLEGE OF LIBERAL ARTS

Allen, Howard W., Professor, *Emeritus*, Ph.D., University of Washington, 1959; 1962.

Allen, James Smith, Professor, Ph.D., Tufts University, 1979; 1991. European; Modern: France; social and cultural.

Ammon, Harry, Professor, *Emeritus*, Ph.D., University of Virginia, 1948; 1950.

Barton, H. Arnold, Professor, *Emeritus*, Ph.D., Princeton University, 1962; 1970.

Batinski, Michael C., Professor and *Director of Graduate Studies*, Ph.D., Northwestern University, 1969; 1968. Early America.

Bean, Jonathan J., Assistant Professor, Ph.D., Ohio State University, 1994; 1995. U.S.: Economic and Business.

Bengtson, Dale R., Assistant Professor, Ph.D., Hartford Seminary Foundation, 1971; 1973. History of Religions.

Carr, Kay J., Associate Professor, Ph.D., University of Chicago, 1987; 1989. U.S. Social; 19th century; Illinois, frontier, historical geography.

Carrott, M. Browning, Associate Professor, *Emeritus*, Ph.D., Northwestern University, 1966; 1967.

Chen, Jian, Associate Professor, Ph.D., Southern Illinois University, 1990; 1995. Modern Chinese history: diplomatic.

Conrad, David E., Professor, *Emeritus*, Ph.D., University of Oklahoma, 1962; 1967.

Detwiler, Donald S., Professor, *Emeritus*, Dr. phil., Goettingen University, Germany, 1961; 1967.

Dotson, John E., Professor, Ph.D., Johns Hopkins University, 1969; 1970. European: Medieval and Renaissance, Italy; Maritime.

Fladeland, Betty L., Professor, *Emerita*, Ph.D., University of Michigan, 1952; 1962.

Gardiner, C. Harvey, Professor, *Emeritus*, Ph.D., University of Michigan, 1945; 1957.

Gold, Robert L., Professor, *Emeritus*, Ph.D., University of Iowa, 1964; 1965.

Haller, John S., Jr., Professor, Ph.D., University of Maryland, 1968; 1990. U.S. History, Intellectual; history of medicine and pharmacology.

Kuo, Ping-Chia, Professor, *Emeritus*, Ph.D., Harvard University, 1933; 1959.

Lieberman, Robbie, Associate Professor, Ph.D., University of Michigan, 1984; 1991. Contemporary U.S., War and Peace, social movements.

Morgan, Marjorie L., Associate Professor, Ph.D., Tulane University, 1988; 1988. Britain: 18th and 19th centuries; social and cultural.

Murphy, James B., Associate Professor, *Emeritus*, Ph.D., Louisiana State University, 1968; 1968.

O'Day, Edward J., Associate Professor, *Emeritus*, A.M., Indiana University, 1956; 1962.

Shelby, Lon R., Professor, *Emeritus*, Ph.D., University of North Carolina, 1962; 1961.

Simon, John Y., Professor, Ph.D., Harvard University, 1961; 1964. United States: Civil War and Reconstruction; Illinois; women.

Simon, Paul, University Professor, Dana College, U.S. Senate; 1997. U.S. History: public policy, abolition, Abraham Lincoln.

Sinha, Mrinalini, Associate Professor, Ph.D., SUNY at Stony Brook, 1988; 1997. Modern India, British imperialism, feminist theory.

Stocking, Rachel, Assistant Professor, Ph.D., Stanford University, 1994; 1994. European: Ancient and early medieval; cultural and political; Spain.

Vyverberg, Henry S., Professor, *Emeritus*, Ph.D., Harvard University, 1950; 1968.

Weeks, Theodore R., Associate Professor, Ph.D., University of California, Berkeley, 1992; 1993. Russia/USSR, East Central Europe: cultural and political; Nationalism.

Werlich, David P., Professor and *Chair*, Ph.D., University of Minnesota, 1968; 1968. Latin American: Andean region.

Wilson, David L., Professor, Ph.D., University of Tennessee, 1974; 1974.; United States: foreign relations.

Wu, Tien-Wei, Professor, *Emeritus*, Ph.D., University of Maryland, 1965; 1972.

The Department of History offers graduate programs leading to the Master of Arts and Doctor of Philosophy degrees.

Research Facilities

Morris Library on the campus is the fourth largest library in Illinois. Housed in a modern seven-story building, it contains more than 2 million volumes and is growing at a rate of over 60,000 items per year. Morris Library acquires current scholarly publications not only from United States but also from Latin America and European publishers. The long-term use of highly specialized materials is afforded by the affiliation of Morris Library with the Center for Research Libraries in Chicago.

The holdings in history and related areas amount to more than 500,000 volumes. To these must be added 20,000 reels of microfilm containing printed sec-

ondary works and 6,000 volumes of printed source material and 30,000 volumes of early American imprints prior to 1800 on microtext. Among the materials in the process of acquisition is a microtext edition of all newspapers published in the United States prior to 1820.

The library also possesses substantial holdings in the form of microfilm editions of presidential papers, dispatches and instructions of the state department since 1789, massive holdings in consular records, and the Adams family papers. The library has been a complete repository of United States government documents since 1954 and holds a large collection of earlier documents, including a virtually complete Congressional set. With the publication of the Ulysses S. Grant papers by the Southern Illinois University Press and the location of the Grant Association on the campus, the library is acquiring what will become the country's leading collection of Grant books and correspondence.

Following the acquisition of the 7,000-volume library of Jose Morgrovejo Carrión of Ecuador in 1960, the library has systematically expanded its holdings in Latin American history, government, literature, and anthropology. The papers of Francisco Vásquez Gómez, Mexican political leader (1907–1919), Peruvian diplomat and business tycoon, Federico Barreda and Samuel Putnam, American expert on Latin American affairs, provide rich research opportunities. Extensive files of serial publications from Argentina, Bolivia, Paraguay, Uruguay, Cuba, and Mexico also contain diverse sources for investigation. Many of the above materials are unavailable elsewhere in the United States.

Holdings in European history include the standard documentary publications, as well as scholarly serials and journals. The materials to support research are strongest in modern German and English history.

Admission

Graduate work in history is offered at both the master's and the doctoral levels. Admission to programs administered by the Department of History must be approved by the department, with approval dependent upon the preparation, ability, and promise of the individual student.

A non-refundable application fee of \$20.00 must be submitted with the application. Attach your check or money order, payable to Southern Illinois University, to the top of the application form. Do not send cash. Only checks or money orders payable to United States banks will be accepted.

M.A.: for the Master of Arts degree major in history, the department's admission requirements are those of the Graduate School plus applicants must provide a report of the result of the general test of the Graduate Record Examination. Students admitted with a GPA of less than 2.7 must establish a 3.00 GPA in history courses in the first semester. The department reserves the right to terminate from the history program a student who does not establish and maintain a 3.00 GPA in history courses.

Ph.D.: for admission to the doctoral program, each applicant should submit to the department, in addition to the material required by the Graduate School, the following: three letters from former teachers, preferably at the graduate level; a letter in which the applicant expresses professional and personal objectives; and a report of the result of the general test of the Graduate Record Examination.

Accelerated entry into the Ph.D. program is encouraged for especially qualified M.A. students who have made an early commitment to doctoral study. A student may after two semesters of residence petition for accelerated entry into the doctoral program. The petitioner must demonstrate the ability to perform at the Ph.D. level. This includes a GPA of 3.70 (A = 4.00) in graduate history courses, the results of the GRE general examination, three letters of recommendation from professors at SIUC, and submission of a seminar paper or a published article for evaluation by the Graduate Studies Committee. The student also should have completed at least one research seminar in history and the research tool

requirement for the M.A. Upon approval of the petition, the Department of History will recommend to the Graduate Dean direct admission into the Ph.D. program.

Direct entry into the Ph.D. program from baccalaureate studies is possible for students of exceptional ability. This can be demonstrated through extensive undergraduate course work of superior quality, excellent GRE scores, proficiency in research tools, previous research experience, and letters of recommendation. Students who have taken course work after the undergraduate degree may not petition for direct entry. Upon approval of the petition, the Department of History will recommend to the Graduate Dean direct admission into the Ph.D. program.

Requirements for the Master of Arts Degree

On entrance into the M.A. program all students will select two broad fields of study from the list below and with the advice of the Director of Graduate Studies form an advisory committee to direct a program of studies. At the end of the program students will take comprehensive examinations in the fields of study.

United States to 1877

United States, 1865 to present

Latin America, Colonial

Latin America, National

Europe, Mediaeval

Europe, early modern

Europe, modern

England, modern

East Asia

At the beginning of their studies, M.A. students will also select one of two tracks: the thesis or the research seminar option.

The thesis option requires a thesis which demonstrates the candidate's capacity to carry out independent and original research. A candidate in the thesis program should, with the approval of the director of graduate studies, select a thesis adviser and a thesis topic by the end of the first full-time semester in the program. As many as six semester hours may be taken in thesis research.

A candidate must submit an acceptable thesis and pass a comprehensive oral examination covering the selected field of concentration and the candidate in the thesis program must take at least one research seminar in which a paper will be written.

A candidate in the seminar program must complete two research papers with a grade of A or B. These papers are normally to be prepared in the department's regularly scheduled research seminars. A copy of one paper must be filed with the Graduate School; copies of both papers must be filed with the department.

History may be chosen as a minor when a student's program of study allows for a graduate minor or as a teaching specialty for the Master of Science in Education degree major with a major in secondary education or higher education.

Students enrolled in the Master of Arts degree program must consult with the director of graduate studies in the Department of History before registering for courses. Students enrolled in either of the Master of Science in Education degree programs must consult the history director of graduate studies and the appropriate department in the College of Education before registration.

For the Master of Arts degree major in history, 30 semester hours of satisfactory graduate work are required; at least 18 of these 30 hours must be on the 500 level, including 500 and 501. Within this general requirement, at least 20 semester hours must be in appropriate history courses, with at least 10 of the 20 hours on the 500 level. The remainder of the hours may be taken in courses on the 400 level.

All candidates for the Master of Arts degree must satisfy the requirement for a research tool by demonstrating proficiency in a foreign language or in quantitative methods (statistics, computer programming, or data management).

The language research tool option may be fulfilled either by passing Foreign Language 488 with a grade of *A* or *B*, or by achieving a satisfactory score on the Graduate School foreign language test, or by special testing arrangements made between the student, the director of graduate studies, and the student's adviser.

Graduate students may demonstrate proficiency in quantitative methods by passing two courses with a grade of *A* or *B*, from among the following pairs of courses: EPSY 506 and 507; POLS 503a and 503b; MATH 516a and 516b; and POLS 503b and HIST 494. The courses selected will be determined in consultation among the student, the student's adviser, and the director of graduate studies. With the consent of the director of graduate studies, other courses in statistics and computer science may be accepted in fulfillment of the research tool requirement. None of the courses used to satisfy the research tool requirement may be counted as part of the thirty semester hours of graduate work required for a master's degree.

The Doctor of Philosophy Degree

A student seeking the Ph.D. degree in historical studies must pass preliminary examinations and submit a satisfactory dissertation which involves independent and original research. In preparing for preliminary examinations, a doctoral student must complete at least 24 hours of credit on campus within a period not to exceed four calendar years before being admitted to candidacy. The courses and hours of credit necessary for a doctoral student to prepare for preliminary examinations will be determined by the student's advisory committee and must include successful completion of four colloquia or research seminars with grades of *A* or *B* in which at least two major papers are prepared. The goal is to develop high competence in the selected fields in which the student will be examined. Students are responsible for preparing five fields, one of which may be outside the field of history. Three of the five fields will be in the broad areas of United States, European, Latin American, or Asian history encompassing major historical periods; two of the fields will emphasize depth of preparation rather than breadth and will normally involve shorter time periods or topical specialties. A list of Ph.D. degree fields reflecting the current expertise of the faculty and approved by the department's graduate studies committee will be kept on file in the office of the director of graduate studies and the department chair. Examinations will cover four fields and the student can be certified as proficient in the fifth field, providing that all courses taken in preparation for that field are passed with grades of *A* or *B*. Full-time Ph.D. students who have not passed their preliminary examinations must take, in each semester, at least six semester hours of graded courses, at least three of which must be on the 500 level. Dissertation hours may be taken prior to admission to candidacy only with the approval of the graduate studies committee.

The department requires all candidates to pass a reading examination in two foreign languages. With the approval of the department, quantitative methods, (statistics, computer programming, or data management) may be substituted for one language. Procedures for demonstrating proficiency in foreign language or quantitative methods are the same as those required for the Master of Arts degree. These requirements must be satisfied prior to the preliminary examinations.

All students are also required to define and undertake an internship program under the direction of their advisory committees. More specific information is available on file in the department office. After completing the course work, fulfilling the research tool requirements, passing the preliminary examinations, and presenting an acceptable dissertation prospectus, the student will be recom-

mended for Ph.D. candidacy and will devote full time to the dissertation. Dissertation subjects must be chosen from either United States history, Latin American history, or European history. The final oral examination will cover the field of the dissertation and related matters.

The Departments of History at SIU-Carbondale and SIU-Edwardsville have recently entered into a cooperative Ph.D. program in Historical Studies which will enable students to do work on both campuses. Additional information may be obtained from the Department offices on both campuses.

Assistantships and Fellowships

Fellowships and teaching assistantships are available to qualified graduate students. All carry stipends and remission of tuition. Application for these awards should be submitted by January 15.

Additional information concerning rules governing the graduate program in history may be obtained by writing to the director of graduate studies, Department of History.

Courses (HIST)

411-3 World of Ancient Greece. An investigation into the societies, cultures and government of Greece and the Eastern Mediterranean from the time of the Trojan War to the conquests of Alexander the Great. The course will focus on primary sources and modern analyses pertaining to such issues as slavery, democracy, religion, Athenian imperialism and cultural difference.

412-3 World of Ancient Rome. An investigation into the society, culture and government of the Romans and the peoples they conquered from the time of Romulus and Remus to the "barbarian" invasions. The course will focus on primary sources and modern analyses pertaining to such issues as imperial expansion and decline, Roman law and politics, social conflict and cultural difference.

413-6 (3,3) Medieval Society. (a) The Early Middle Ages, A.D. 400-1000; (b) The Late Middle Ages, A.D. 1000-1400. An examination of the distinctive elements of medieval European civilization. The first semester will consider the transition from ancient to medieval society and the gradual development of a new social and economic regime. The second semester will be devoted to a study of the full development of that new regime, its flowering in the 13th century and the crisis of the 14th century.

418-3 Renaissance. The focus on the Renaissance in Italy and in particular on its relation to the social and economic context in which it developed. The spread of humanism and humanistic values to other areas of Europe will also be considered.

420-3 Reformation. Concentrates on the movement of religious reforms in the 16th Century. Emphasis on its roots in the past, particularly in earlier expressions of popular piety and to the wider social and political effects in the 16th and 17th centuries.

421-6 (3,3) Absolutism and Revolution: Europe 1600-1815. (a) 1600-1715; (b) 1715-1815. The development of enlightened despotism, the rise of the revolutionary movement and the Napoleonic period.

422-6 (3,3) Intellectual History of Modern Europe. (a) 1600-1815; (b) Since 1815. The first

semester will cover the Age of Reason, the Enlightenment, and Early 19th Century Romanticism. The second semester will cover the period from Marx and Darwin to the Contemporary World.

423-3 Diplomatic History of Modern Europe. A study of the European state system and the diplomacy of the major powers, with emphasis on events since 1870.

424-6 (3,3) Social and Revolutionary Movements in Nineteenth Century Europe. (a) 1815-1871; (b) 1871-1914. Changing social and political structure of Europe caused by the impact of industrialization and the French Revolution. The consequences of these developments in terms of the emergence of new social forces and the development of movements for social and political revolution.

425-6 (3,3) Twentieth Century Europe. (a) Era of the World Wars; (b) Since 1945. Political, social, cultural and economic development of the major European states during the present century.

432-3 History of France. Social, economic, political and intellectual evolution from medieval origins to the present day. French contributions to western culture.

433-6 (3,3) History of Germany. German state and society from antiquity to the present. (a) to 1866; (b) since 1866.

434-3 History of Scandinavia. Denmark, Norway, Sweden, Finland and Iceland. Related history of the Baltic and North Sea regions, from prehistoric times to the present.

437-6 (3,3) History of Russia. (a) Russia from the beginnings to the 1860s: Kievan Rus, Muscovy and Imperial Russia to the emancipation of the serfs; (b) Imperial Russia and the Soviet Union from 1865 to the present day. Emphasis on political history.

438-3 History of Poland. History of Poland as a state and nation, with an emphasis on the modern period (since the partitions and Napoleonic wars). Political and social movements, nationalism and Polish-Jewish relations will be among the topics explored.

440-3 Tudor-Stuart England. England from 1485 to 1714. The social, economic and political development of Britain during the crucial two centuries from late feudal anarchy to world power.

442-6 (3,3) English History and Culture. (a) From 1660 to 1780; (b) 1780-1914. An examination of English society and values in novels, essays, memoirs and paintings. The first semester analyzes social and political stability, secularization, economic transformations and foundations of empire. The second semester investigates industrialization, urbanization, the democratization of politics, the growth of empire and changing roles for women and the family. Prerequisite: 330b or consent of instructor.

443-3 Twentieth Century England. The social, economic and political development of England in the twentieth century.

445-3 British Empire. A survey of the British Empire, from the loss of the American colonies to the onset of decolonization at the end of the Second World War. It focuses on the intersections between the histories of Britain and of its imperial possessions in Africa, Asia and the British West Indies. Special attention will be given to the role of the nation and of race, class, gender and sexuality in the making of the British Empire.

450-6 (3,3) Early America. The evolution of American society from European settlement through the Age of Jefferson, with special emphasis on social and political institutions and thoughts.

451-3 United States History, 1815-1850. The struggle for democratic institutions and the emergence of sectional conflict in the Jacksonian Era.

452-6 (3,3) United States History 1850-1896. (a) Civil War era; (b) the origins of modern America; reconstruction and nationalization; 1865-1896. The study of the background to the Civil War, the Civil War, Reconstruction and the Gilded Age.

453-6 (3,3) United States History, 1896-1945. (a) 1896-1921; (b) 1921-1945. The history of the United States since the 1890's with emphasis upon politics, political ideas and diplomacy.

454-6 (3,3) Cold War United States, 1945-1990. (a) 1945-1963; (b) 1963-1990 Topical course emphasizing the impact of the Cold War on United States society. Section (a) focuses on foreign policy debates, domestic anti-communism and cultural effects of the Cold War. Section (b) focuses on the Vietnam War, the arms race and the effects of the Cold War on economic and social issues (poverty, civil rights, the environment).

460-6 (3,3) Social History of the United States. (a) to 1860; (b) since 1860. The historical development of relationships among America's various ethnic, religious, racial, economic and sexual groups.

461-6 (3,3) Constitutional History of the United States. (a) To 1877; (b) from 1877. Origin and development of the American Constitution from the English background to the present time. Stress is placed on the political, social and economic forces which influenced the American constitutional system.

462-3 History of American Health and Medicine. Readings and discussion about the development of modern medicine as it affected pa-

tients and doctors in the United States. Health care will be traced historically, with discussions of the development of medical science as well as medical organizations and institutions.

463-6 (3,3) History of American Diplomacy. (a) To 1900; (b) Since 1900. General consideration of American foreign policy and the emergence of the United States as world power.

464-3 U.S. Economic and Business History. This course examines the growth of the American economy, economic thought, the evolution of the firm, and the changing place of women and minorities in American business society. It also explores the intersection between business and other institutions in American life, including labor, law, literature, government, education and religion.

465-6 (3,3) History of the South. (a) The Old South; (b) The New South. Social, economic, political and cultural developments of the South.

466-6 (3,3) History of the American West. (a) Trans-Appalachian Frontier; (b) Trans-Mississippi Frontier. The American frontier and its impact on American society from the colonial period to the 20th century.

467-3 History of American Thought to 1860. The principal intellectual currents in American thought and culture from the 17th century through mid-19th century. Major themes include the intellectual origins and manifestations of Puritanism, the Enlightenment and Romanticism.

468-3 Law and the Social Control of Women in American History. An examination of the ways in which the law affects the behavior, life changes, identities and experiences of women, from colonial times to the present. Team taught by faculty from history and administration of justice.

469-3 Darwin and the Darwinian World. Readings and discussion on the impact of Charles Darwin on American thought and culture. Focus areas include religion, social ethics, political criticism, social critics, economics, the genteel tradition, utopian writers, race and imperialism.

470-6 (3,3) Continuity and Change in Latin America. (a) To 1825; (b) Since 1825. The interaction of economic forces and intellectual currents with Latin America social structures and political institutions, from pre-Columbian times to the present.

474-3 Andean South America. The political, economic, social and cultural development of the Andean nations from pre-Columbian times to the present.

480-6 (3,3) History of Chinese Civilization. (a) Traditional China; (b) Modern China. The first semester provides a full coverage of traditional China and emphasis on classical philosophies, religions, historical writings, literature, arts and science. The second semester deals with the transformation of China into the modern ages.

482-3 Modern India. A survey of modern Indian history, from the advent of British colonialism in India to independence. The course emphasizes the impact of colonialism on India and the struggle against British rule.

484-3 History of Central Asia. Tribes, migrations, wars and power politics in Central Asia and outlying areas of China from Han times through

19th century rivalries to latest developments along the Sino-Soviet frontier.

485-3 Islamic World to 712. A study of the formative years of Islam, and of events which led to the establishment of the first Muslim empire, extending from Spain in the West to India in the East.

487-3 Modern Islamic World. Survey the cultural, social and political impact of Islam on world civilization since the 18th century, with an emphasis on the internal changes within Islam as a result of cross-cultural contact. The impact of colonization on the Muslim world and subsequent reform movements are examined.

490-1 to 4 Special Readings in History. Supervised readings for students with sufficient background. Prerequisite: registration by special permission only.

491-3 Historiography. Writings of historians from Herodotus to the present.

493-1 to 6 Problems in History. Topics vary with instructor. May be repeated for a maximum of six semester hours provided registrations cover different topics. Topics announced in advance.

494-3 Quantitative Research in History. An introduction to the application of quantitative data and social science methods to historical research.

496-1 to 9 Internship in History. Supervised field work in public or private agencies or operation where history majors are frequently employed, such as archives and libraries, government offices, communications media, historic sites and museums. Only three hours may be applied to the major and six hours toward the M.A. degree. Prerequisite: consent of department.

497-3 Historical Museums, Sites, Restorations and Archives. The development of museums from antiquity to the present, with emphasis on the United States. Additional topics include historical sites such as battlefields, historic buildings, restorations, monuments and archives. Also examines the purposes and functions of the museum and the tasks of professionals employed in museums of interpretative centers. Given in cooperation with the University Museum.

500-2 The Historian's Craft. Examination of historical methodology and recent trends in historiography. How historians conduct research and convey the results of it. Special treatment of selected topics of historiography. Required of M.A. degree students. Ph.D. degree students should consult graduate advisers.

501-3 Recent Historiography. Trends in historical writing and historical interpretation in the 20th Century. Required of M.A. degree students. Ph.D. degree students should consult graduate advisers.

522-3 to 15 (3 per semester) Colloquium in European History. Group reading and discussion about major periods, subregions and themes in European history. May be repeated as instructors and topics vary.

523-4 to 20 (4 per semester) Research Seminar in European History. Research and writing on selected topics in European history. Students will prepare a major paper. May be repeated as topics and instructors vary.

554-3 to 15 (3 per semester) Colloquium in United States History. Group reading and dis-

cussion about major periods, subregions and themes in United States history. May be repeated as topics and instructors vary.

555-4 to 20 (4 per semester) Research Seminar in United States History. Research and writing on selected topics in United States history. Students will prepare a major paper. May be repeated as topics and instructors vary.

570-4 to 12 (4 per semester) Research Seminar in Latin American History. Research and writing on selected topics in Latin American history. Students will prepare a major paper. May be repeated as topics vary.

571-3 to 9 (3 per semester) Colloquium in Latin American History. Group reading and discussion about major periods, subregions and themes in Latin American history. May be repeated as topics vary.

580-4 to 12 (4 per semester) Research Seminar in Asian History. Research and writing on selected topics in Asian history. Students will prepare a major paper. May be repeated as topics vary.

581-3 to 9 (3 per semester) Colloquium in Asian History. Group reading and discussion about major periods, subregions and themes in Asian history. May be repeated as topics vary.

583-4 to 12 (4 per semester) Research Seminar in Contemporary History. Research and writing on selected topics in contemporary history. Students will prepare a major paper. May be repeated as topics and instructors vary.

584-3 to 9 (3 per semester) Colloquium in Social Science History. Group reading and discussion relating to the use of theories and methods from the social science disciplines in historical interpretation.

585-4 to 8 (4,4) Research Seminar in Comparative History. Research on selected topics employing cross-cultural or other comparative approaches. Students will prepare a major paper. May be repeated as topics vary.

590-1 to 8 (1 to 3 per semester) Readings in History. Individual readings. Registration by special permission only. Student must obtain the consent of the faculty member involved. M.A. degree students are limited to a maximum of 4 hours toward the 30-hour requirement. Graded *S/U* only. Prerequisite: registration by special permission only.

591-2 to 5 Independent Investigation. Graded *S/U* only. Prerequisite: doctoral standing and consent of graduate adviser.

596-3 Tutorial in History. Research and writing in history in close consultation with an instructor to produce a major paper on a selected topic. This course may count toward graduation as a seminar and the paper will be placed on file in the Department of History. Students may take this course only once at the M.A. level and once at the Ph.D. level. Prerequisite: consent of the director of graduate studies.

597-1 to 9 (1 to 3 per semester) Practicum in Teaching College-Level History. Students will learn how to lead discussion sections and/or to teach independent courses at the college level. M.A. or Ph.D. students assigned for the first time as a discussion leader must take this course. The course also is required for Ph.D. students who are teaching their own courses for the first time.

Graded *S/U* only. Prerequisite: open only to graduate students in history with the consent of the director of graduate studies.

598-1 to 9 Graduate Internship in History. Supervised field work in occupationally related fields in public history, teaching, university publishing, historical editing. Programs of field work will be designated by students in consultation with their advisory committees. Students at the Ph.D. level can take as many as 9 hours in the course of their studies. Graded *S/U* or *DEF*.

599-1 to 6 Thesis. Minimum of three hours to be counted toward a Master's degree.

600-1 to 30 (1 to 16 per semester) Dissertation.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Interactive Multimedia

E-mail: immsiu@siu.edu

(This program is currently under revision.)

Multimedia play an important role in education, training, entertainment, news, information, and the arts. The interactive nature of multimedia encourages exploration, learning, and understanding. Individuals trained in multimedia apply their knowledge and skills across a variety of areas including medicine, education, entertainment, government, and industry on a global scale.

The College of Mass Communication and Media Arts through the Department of Cinema and Photography, the Department of Radio-Television, and the School of Journalism offers courses leading to a Master of Arts Degree in Interactive Multimedia.

Students bring to the Interactive Multimedia Program individual education and professional experience in one or more multimedia elements such as writing, art, photography, computer programming, video, or audio. In their study of multimedia development, students will gain the background necessary for success as multimedia creators, developers, evaluators, and producers. The program emphasizes three areas:

- the skills to apply and manage new media tools and technologies for communication, instruction, creative production, and research;
- the quantitative and qualitative skills to analyze and evaluate functional aspects of multimedia design and production;
- a theoretical base upon which to build successful multimedia productions.

Curriculum

Candidates for the M.A. degree in Interactive Multimedia must complete a minimum of 39 semester hours of graduate work of which 27 hours are in required courses and 3 are for the thesis. At least one of the electives must be from outside the College of Mass Communication and Media Arts. All degree requirements, including thesis credits, must be completed within five years of admission to the graduate program in Interactive Multimedia.

CORE	
MCMA 501, Intellectual Property and the Law	3 hours
C&I 504, Systematic Approaches to Instruction (C&I 504)	3 hours
MCMA 510, Quantitative Evaluation	3 hours
MCMA 511, Qualitative Evaluation	3 hours
MCMA 520a, Multimedia Design, Production and Authoring I	4 hours
MCMA 520b, Multimedia Design, Production and Authoring II	4 hours
MCMA 520c, Multimedia Design, Production and Authoring III	4 hours
RT 580, Telecommunications Technology	3 hours
Electives (At least one outside of CMCMA)	9 hours

THESIS

MCMA 599, Thesis in Interactive Multimedia

3 hours

Total Credit Hours

39 hours

Admission

Applicants must hold a bachelor's degree from an accredited institution or have completed all undergraduate degree requirements prior to the beginning of the classes for the term for which admission is sought. Applicants may begin the admissions process when they need no more than 32 semester hours beyond the credit shown on their transcript at the time of application to complete all requirements for the bachelor's degree. In addition to the Graduate School requirements for admission, applicants must:

- Have earned a grade point average of 3.00 or better ($A = 4.00$) on undergraduate work completed prior to receipt of the bachelor's degree.
- Provide to the Interactive Multimedia Graduate Committee evidence of professional competence in at least one element of interactive multimedia such as graphic arts, writing, photography, computer programming, video, or audio. Such evidence ordinarily consists of a portfolio or other samples of work.
- Submit a letter explaining their personal interest in interactive multimedia and their objectives for study in the program.
- Arrange for three references to send letters of recommendation to the chair of the Interactive Multimedia Graduate Committee.

Applicants will be ranked by the above criteria and selected according to available space and their potential for unique contribution to the program.

Applicants lacking computer skills will be required to pass a prerequisite course (MCMA 410) prior to program participation. The prerequisite course will not count towards the M.A. degree.

No more than 6 hours of graduate credit may be transferred from another university and requests must be approved by the chair of the Multimedia Graduate Committee and the dean of the Graduate School.

Retention

Any student whose grade point average falls below 3.00 will be placed on academic probation. Any student on probation whose grade point average remains below 3.0 for two consecutive semesters in which she or he is enrolled, excluding summer session, will be permanently suspended from the Graduate School and the Interactive Multimedia Program.

Courses (MCMA)

497-1 to 6 Special Interdisciplinary Study. Designed to offer and test new and experimental courses and series of courses within the College of Mass Communication and Media Arts. Prerequisite: consent of instructor.

499 1 to 3 Independent Study. Supervised research, project, or creative work. The area of study is proposed by the student with the approval of a Mass Communication and Media Arts faculty member. Prerequisite: consent of instructor.

501-3 Intellectual Property and the Law. Examines the legal and cultural nature of intellectual property. Topics of concern include copyright and patents, right of privacy, obscenity and other areas where the law and new communication products and systems interact.

510-3 Quantitative Message Evaluation. Provides an overview of research procedures to de-

termine the effectiveness of multimedia messages. Basics of measurement, survey, experimental and quasi-experimental research designs and evaluation, interpretation and presentation of research will be stressed. A background in statistics is helpful but not required.

511-3 Qualitative Message Evaluation. Examines analytical, aesthetic, creative and theoretical activities as primary qualities of visual perception. Applies cognitive studies to visual thinking processes in the area of multimedia message design and evaluation. Students develop perceptual analytic skills through exercises including idea sketching, visual thinking strategies and intercultural modes of visualization.

520A-4 Multimedia Design, Production and Authoring I. Introduces the design, programming and production skills necessary for the creation of interactive multimedia products. Empha-

sizes principles of computer programming, graphic design, technology and writing multimedia messages. Students use a collaborative approach to problem solving. Restricted to College of Mass Communication and Media Arts students.

520B-4 Multimedia Design, Production and Authoring II. Provides additional instruction in the design, programming and production skills necessary for the creation of interactive multimedia products. Emphasizes audio/video acquisition and production skills, animation techniques, concepts of branching and linking and human interface theory. Students use a collaborative approach to problem solving. Restricted to College of Mass Communication and Media Arts students. Prerequisite: 520a.

520C-4 Multimedia Design, Production and Authoring III. Culminates instruction in interactive multimedia design, programming and production skills. Course goal is the integration of audio, video, graphics, animation and text into effective and efficient interactive multimedia messages. Emphasizes project planning and management. Students receive considerable authoring practice in preparation for the thesis project. Students use a collaborative approach to problem solving. Restricted to College of Mass Communication and Media Arts students. Prerequisite: 520a, 520b.

594-3 Practicum. Study, observation and participation in multimedia activities. Prerequisite:

consent of the chair of the Multimedia Graduate Committee and instructor. Graded *S/U* or *DEF* only.

595-3 Graduate Seminar in Interactive Multimedia. Seminar on subjects of current interest with the topic determined through faculty and student requests. Only one Mass Communication and Media Arts 595 may count as satisfying the elective portion of the degree requirements.

599-3 Thesis in Interactive Multimedia. The student will write a proposal that clearly states the design model, the project goals and the user performance levels of a functional multimedia product. The student will then create and produce such a multimedia product and write a critical evaluation of it that assesses how well it achieved proposed goals and performance levels. The proposal and the complete thesis document (multimedia product and written evaluation) must be approved by the student's graduate committee. Production may involve collaboration among a number of students at some stages, but the final product must represent a unique and original individual effort.

601-1 Continuing Enrollment. For graduate students who are working on their thesis. The student must have completed three thesis hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Journalism

E-mail: hlasley@siu.edu

COLLEGE OF MASS COMMUNICATION AND MEDIA ARTS (This program is currently under revision.)

Akhavan-Majid, Roya, Associate Professor, Ph.D., University of Minnesota, 1988; 1988. Telecommunications policy, international communication.

Atwood, L. Erwin, Professor, *Emeritus*, Ph.D., University of Iowa, 1965; 1967.

Brown, George C., Professor, *Emeritus*, Ph.D., Southern Illinois University at Carbondale, 1963; 1956.

Ford, James L. C., Professor, *Emeritus*, Ph.D., University of Minnesota, 1948; 1955.

Jaehnig, Walter B., Associate Professor, Ph.D., University of Essex, England, 1974; 1987. Media ethics, media theory and philosophy, political violence reporting.

Johnson, Thomas J., Associate Professor, Ph.D., University of Washington, 1989; 1988. Media history, political communication.

Jugenheimer, Donald W., Professor and *Director*, Ph.D., University of Illinois, 1972; 1996. Advertising, media management.

Kelly, James D., Associate Professor, Ph.D., Indiana University, 1990; 1990. Visual communication, graphic design.

Lowry, Dennis T., Professor, Ph.D., University of Iowa, 1972; 1990. Mass communication theory, political communication.

McCoy, Ralph E., Professor, *Emeritus*, Ph.D., University of Illinois, 1956; 1955.

Ramaprasad, Jyotika, Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1984; 1986. International communication, mass media and social reality, international advertising.

Shidler, Jon A., Associate Professor, M.S., Marketing Communications, Roosevelt University, 1980. Advertising, television program and news content analysis.

Simon, Paul, University Professor and *Director* of the Paul Simon Public Policy Institute; 1997. Public policy.

Spellman, Robert, Associate Professor, J.D., Cleveland State University, 1977; 1985. Mass communication law, opinion privilege, media ethics.

Stone, Gerald C., Professor, Ph.D., Syracuse University, 1975; 1991. Reporting and news writing, newspaper research studies.

Stonecipher, Harry W., Professor, *Emeritus*, Ph.D., Southern Illinois University at Carbondale, 1971; 1969.

The considerable growth of the mass communication industries has caused an increased need for professionally educated men and women with graduate degrees who want to pursue careers as journalists in the mass media, communication specialists in industry and government, researchers, teachers, and university faculty members.

Graduate programs in the School of Journalism are designed to help students achieve significant intellectual growth as they prepare for these careers. It is intended that the student's entire graduate program be a challenging, stimulating, and valuable educational experience. For this reason, the School of Journalism has 3 degrees, each offering a different approach to graduate education. In each degree program, students take some of their work in departments other than journalism so that they may explore areas of interest to them and inquire into other disciplines.

The School of Journalism offers graduate programs leading to the Master of Arts, the Master of Science, and the Doctor of Philosophy degrees with a major in journalism. Available areas of emphasis are: social and behavioral approaches to communication processes and effects; media history; and legal studies in mass communication. The Master of Arts and Ph.D. degrees are research degrees culminating in the preparation of a thesis or dissertation. Students are expected to conduct research to provide answers to important questions, to discover new information, to show new associations between previously known facts, or to supply historical or legal information about particular subjects.

The Master of Science degree is a media-oriented degree designed to be of benefit to individuals who wish to prepare themselves to be more proficient in their professions and does not necessarily involve the kind of research required in preparing a thesis.

Admission to the Degree Program

Persons seeking admission should consult the appropriate section of this catalog. GRE or GMAT Aptitude Test scores must be submitted before a student enters the program. Students without a previous journalism or mass communication degree or professional media background are usually required to take some undergraduate courses without credit as a way of gaining background. The amount of this course work will be determined by an adviser in consultation with other faculty members. A TOEFL score of 600 or higher is required of all foreign students, except those from English-speaking countries. A minimum undergraduate GPA of 3.0 is required for acceptance into the graduate program.

A non-refundable application fee of \$20.00 must be submitted with the application. Attach your check or money order, payable to Southern Illinois University, to the top of the application form. Do not send cash. Only checks or money orders payable to United States banks will be accepted.

Academic Retention

In addition to the retention policies of the Graduate School, the School of Journalism requires that each master's degree student must maintain an overall grade point average of 3.00 ($A = 4$) and each Ph.D. student must maintain an overall grade point average of 3.25 ($A = 4$). Upon falling below this average, students will be allowed one academic term to bring their averages up to the minimum; failing this they will be dropped from the program and will not be allowed to re-apply. No course in which the grade is below *C* shall count toward the degree nor fulfillment of any requirement, but the grade will be included in the grade point average. No more than 3 hours of *C* work in graduate courses will count toward either degree.

All students are subject to regular review by the School of Journalism graduate faculty. Those not attaining the minimum acceptable standards or who in any way fail to meet any other requirements or standards set by the faculty will

be dropped as majors. Doctoral students may be required to take extra work if any grades of *C* or lower are earned at SIUC. Students on academic probation are not eligible to hold graduate assistantships.

Master of Arts Degree

The Master of Arts degree student usually builds on a base of social science and a study of journalism or mass communication leading to a career in teaching, scholarship, or applied research in advertising, public relations, media management, opinion research, or similar areas. The degree also may lead to Ph.D. studies.

Candidates for the M.A. degree must complete a minimum of 30 semester hours of graduate work, including 3 hours for the thesis. Additional courses may be required if students change their areas of interest or if performance in course work indicates the need for more course work. No fewer than 18 nor more than 21 semester hours of course work must be earned in journalism. Remaining course credits should be taken in departments whose disciplines have strong theoretical bases. Courses in some departments may not, therefore, be used to meet requirements. Students often elect courses in history, psychology, political science, sociology, anthropology, economics, and guidance.

Each student is required to prepare, write, and defend a thesis which demonstrates a capacity for investigation and independent thought. Students must be enrolled for thesis credit during the semester they defend their theses.

Failure to present and defend an acceptable thesis proposal, or failure to maintain continuous progress toward completion of degree requirements serve as reasons for dismissing a student from the program. Additional work may be required of those students whose progress is interrupted.

Master of Science Degree

The Master of Science degree program with a major in journalism provides advanced professional training for careers in the mass media and related areas. Persons with graduate degrees from accredited schools of journalism are in demand by newspapers, magazines, broadcasting, advertising and public relations firms, government, and industry. The growing complexity of communication increases the need for persons sensitive to the intricacies of communicating via the mass media.

The Master of Science degree work consists of 2 separate programs. They are broadly based and draw upon the resources of a diverse and knowledgeable journalism faculty and upon many other academic areas in the University. From such resources, the School of Journalism provides individually developed programs for graduate students aiming at such careers as newspaper reporting, radio and television news, advertising, public relations, magazine editing, media management, and teaching.

PROGRAM A

Thirty semester hours are required for the Master of Science degree in program A, including 3 hours for thesis or professional project, whichever the student chooses. From 15 to 21 semester hours of course work must be earned in journalism. This includes 9 hours to be earned in three required core courses, JRNL 500, 504, and 512. Remaining semester hours should be taken in a discipline or disciplines appropriate to the student's area of study. Formal, oral defense both of the thesis or project proposal and of the completed thesis or project is required.

PROGRAM B

Program B requires 36 semester hours of course work, but the student writes a research paper instead of a thesis or master's project. The research paper is nor-

mally an extension of the requirements for a specific course of the student's choosing. From 15 to 21 hours of course work must be earned in journalism. This includes 9 hours to be earned in three required core courses, JRNL 500, 504, and 512. Remaining semester hours should be taken in a discipline or disciplines appropriate to the student's area of study.

Doctor of Philosophy Degree

The Ph.D. degree program is designed to produce scholars and teachers who can make significant contributions to the understanding and development of the mass media and their utilization. Doctoral studies include the entire process of mass communication, including communication theory, media history, mass media law, and mass media institutions and their interrelationships with other societal institutions. The program asks students to achieve breadth in their studies, but allows each student to develop a special area of interest and research.

Normally, 3 years of concentrated study, including preparation of a dissertation, will be required to earn the degree, which is built on the base of a suitable master's degree program.

Minimum course requirements for the Ph.D. degree include 38–40 semester hours beyond the master's degree, including basic foundations in mass communication theory and research methods (JRNL 500 and 504). In addition, programs of study will include 2 appropriate research tools, as described below. All doctoral students must complete a graduate course in media law and a graduate inferential statistics course (GUID 506). An evaluation of previous work is made and transfer credit is allowed only for work which fits the degree plan. Approximately two-thirds of course semester hours will be earned in journalism and mass communication; the remaining hours will be earned in a nonjournalism area of study, which might include work in more than one department. Additional course work may be required if the student's area of interest changes or if performance in courses or comprehensive examination results indicate the need.

During the second semester of enrollment, each Ph.D. student will prepare a total program plan for the degree and secure sponsorship by a dissertation committee chair. The plan should include a list of courses and tools, with some explanation and justification for their selection in relation to academic goals. The plan will be discussed and modified, when appropriate, before approval. Once approved, the plan may be changed only with permission of the adviser. The student may deviate from the 2/3–1/3 pattern if the resulting program contains work leading to appropriate research or professional career goals.

Tool Requirements. Minimum course requirements listed above do not include courses taken to satisfy tool requirements. The Ph.D. student, in consultation with the adviser, will select 2 useful tools from among:

Research Design — JRNL 501

Historiography — JRNL 530

Legal Research — JRNL 540

Statistics — GUID 506 and 507

Computer Science — Courses to be selected

Modern Foreign Language — Standard Proficiency Examination

Courses listed as tools are subject to change without notice at times when departments change course content, titles, or numbers. Only grades A or B are accepted for tool courses.

A student may propose other research tools for consideration by the School of Journalism, but such tools must be useful in the conduct of research, especially for the doctoral dissertation.

Examinations. Each student must pass rigorous comprehensive written and oral examinations after completing tool requirements and all course work (with all

incomplete and deferred grades removed). The examination must be completed within one year after the student has satisfied all course and tool requirements. Failure to successfully complete the exams during the one-year period will result in dismissal from the program. While the form and scope of the examinations are at the discretion of the graduate faculty members of the School of Journalism, within basic parameters, the examinations comprehensively test the student's understanding of communication and communication research. Each student takes a minimum of 20 hours of exams including an outside area.

Students prepare dissertation proposals, defend and explain the proposals before their committees and complete the research and write their dissertations. Within one year after admission to candidacy, students must have written dissertation proposals approved by their committees. Dissertations must be based on scholarly research and independent thought.

Students must enroll for a minimum of 24 hours in JRNL 600. Each student must enroll in JRNL 600 each term between admission to candidacy and completion of all requirements for the Ph.D. degree.

Graduate students who have completed their course work and the minimum number of credits required for thesis or dissertation must enroll in JRNL 601, Continuing Research, each semester until the completion of their degree programs.

The dissertation defense will be before members of the dissertation committee (all of whom must be present) and interested observers. Although others than committee members may ask questions of the student, the pass or fail decision on the oral will be made by committee members only.

The School of Journalism offers an accelerated entry option in exceptional cases to students who have been admitted to the journalism M.A. program. To be eligible the student must: 1) possess a master's degree; 2) have had the admission points necessary to have entered the Ph.D. program in journalism initially, without counting points earned from the journalism M.A. program; 3) complete at least nine hours but no more than 18 hours in the journalism M.A. degree; and, 4) have a minimum 3.25 GPA in the journalism M.A. program with no incomplete or deferred grades. The student may petition the Director of Graduate Studies for the accelerated entry option during the semester in which the student will begin taking the ninth hour of graduate courses, but must petition before earning the 18th hour of coursework in the journalism M.A. program. If approved, the student is enrolled in the journalism Ph.D. program the next semester. Up to 18 graduate credits earned in the journalism M.A. program will count toward the Ph.D. degree if the accelerated entry option is approved by the journalism graduate faculty. Once the student is admitted to the Ph.D. program, all requirements of the journalism Ph.D. program apply. Exceptions to any of these rules must be appealed to the journalism graduate faculty, which has final authority to approve or reject the petition.

Courses (JRNL)

400-3 History of Journalism. Development of American newspapers, magazines, and radio-television with emphasis on cultural, technological and economic backgrounds of press development. Current press structures and policies will be placed in historical perspective.

401-3 International Communication. An analysis of the development, structure, functions, and current status of media systems in other countries. Emphasis given to studying factors that facilitate or restrict the flow of intranational and international communication.

406-3 Advertising/IMC Campaigns. (Formerly Journalism 476) Conceptual synthesis and practical application of business, research, media and

creative principles used in the formulation of persuasive messages. includes the development of a complete integrated marketing communications (IMC) campaign for the specific advertiser. Includes all relevant target audience contact points (e.g., advertising, sales promotion, marketing public relations, event marketing, packaging) and both written and oral presentation of the campaign. Prerequisite: 303, 304, 405.

407-3 Social Issues and Advertising/IMC. (Formerly Journalism 479) Analysis of social issues involving advertising and integrated marketing communications (IMC); economic relationships, government and self-regulation, cultural effects, influence on media content and structure,

role in democratic processes, international comparisons, and the stereotyping of women minorities and other audience segments. Prerequisite: senior standing.

411-3 Public Affairs Reporting. Covering government and other public agencies, including the city hall, courts, county offices, business, finance, agriculture, labor and other specialized beats. Prerequisite: 311.

413-3 Advanced Photojournalism. Emphasis in-depth photojournalistic reporting. Students research, write and photograph picture stories. Course examines the ethics, history and social role of photojournalism domestically and internationally. Students work with digital imaging and are introduced to full-motion video. Students must have fully adjustable camera. Prerequisite: 313 and Cinema and Photography 320. Student supplies own materials.

416-3 Critical and Persuasive Writing. (Formerly Journalism 390) The roles and responsibilities of the editor, editorial writer and opinion columnist with emphasis upon editorial writing and critical thinking. Editorial problems methods, policies, style and the fundamentals of persuasion and attitude change form the basis for study. Prerequisite: 311

442-3 The Law of Journalism. Legal limitations and privileges affecting the mass media to include the law of libel, development of obscenity law, free press and fair trial, contempt of court, right of privacy, advertising and antitrust regulations, copyright and access to the press. Prerequisite: senior standing.

452-3 Ethics and News Media. An exploration of ethical problems confronting journalists and an evaluation of how these problems are handled by the media through a focus on current examples. The implications to the media and to society of successes and failures in meeting ethical concerns are discussed. Prerequisite: senior standing.

461-3 Specialized Publications. Functions, operations, and problems of industrial, trade, business, professional, literary and other specialized publications. Management, personnel, and production practices. Use of research in solving problems and setting policies.

462-3 Magazine Article Writing. Principles, problems and techniques involved in producing free-lance and staff-written magazine articles with an emphasis on determining the relationship between article content and audience market. Prerequisite: 311.

490-1 to 6 (1 to 3, 1 to 3, 1 to 3) Readings. Supervised readings on subject matter not covered in regularly scheduled courses. Undergraduates limited to maximum 2 credits per semester. Graduates limited to maximum 3 credits per semester. Prerequisite: written consent of instructor and area head.

494-1 to 6 Practicum. Study, observation and participation in publication or broadcast activities. Prerequisite: consent of instructor and department. Mandatory Pass/Fail.

495-1 to 12 (1 to 6, 1 to 6) Proseminar. Selected seminars investigating media problems or other subjects of topical importance to advanced journalism majors. Seminars will be offered as the need and the interest of students demand. Prerequisite: senior standing.

500-3 Research Methodology in Mass Communication I. Identification of research problems, formulation of concepts and research hypotheses in journalism and mass communication, sampling procedures, design of experimental and survey research.

501-3 Research Methodology in Mass Communication II. Problems of measurement, design and analysis in journalism and mass communication research. Techniques of attitude scaling, questionnaire construction. Bivariate and multivariate data analysis. Procedures for the creation, management and analysis of large data sets using computer programs. Prerequisite: 500 and Educational Psychology 506, concurrent registration in 507.

504-3 Foundations of Mass Communication Theory. Conceptual orientation toward analysis of relationships in the mass communication channels. Emphasis on problem identification and relationships between philosophical basis for behavioral analysis of communication and empirical work in the field; reviews of selected literature.

505-3 Theoretical Issues in Mass Communication. Analysis and critique of recent theory and research. Examination of current trends in research and reviews of selected literature relating to mass communication in the areas of systems, interpersonal, mass media, intercultural, political, organizational, instructional and health communication. Prerequisite: 504.

506-3 Significant Studies in Mass Communication Research. A review of a broad selection of early literature in communication research that has provided much of the conceptual basis for empirical studies during the past two decades.

510-3 Literature of Journalism. Critical reading, discussion and evaluation of 20th century journalistic literature in such areas as media history, muckraking, press criticism, biography, memoirs and reminiscences, depiction of the journalist in fiction, new journalism.

511-3 Studies in Journalism History. Critical analysis of literature showing trends and developments in journalism before 1900. Approximately 100 books are examined in the context of social, political and intellectual history of the times. Lectures, reports and discussions.

512-3 Press Freedom and Censorship. Examination of the philosophical and theoretical bases of press freedom in the United States with attention to the press's English heritages and to numerous attempts at media censorship from the colonial period through the 20th century.

520-3 Communication and National Development. Functions of mass media of communication in the process of national development in the third world. Review of models of national development; problems in the diffusion and adoption of innovation; diffusion of information and influence in modernization of developing countries.

530-3 Historical Research in the Mass Media. Methods of data collection, analysis, organization and presentation for historical research in mass media. Use of such sources as newspapers, archives, personal papers, manuscripts and oral history. Use of statistical methods in mass media historical research. Prerequisite: 511.

540-3 Legal and Governmental Research in the Mass Media. Study of research procedures

related to executive, congressional, judicial and quasi-official reports and documents as they affect the mass media. Focus of the study will be an examination of the legal interrelationship of the government and the media. Prerequisite: 442.

550-1 to 12 (1 to 4, 1 to 4, 1 to 4) Topical Seminar. Seminars on subjects of current interest, with the topics determined through student and faculty request and interest. Topics include audience analysis, communication and social systems, media economics, persuasive communications.

560-3 Seminar: Critical and Persuasive Writing. An analysis of the opinion function of the news media—the editorialist, the opinion columnist, and the critical reviewer—with emphasis upon the theoretical bases of persuasion. Students will study and evaluate various types of

persuasive writing and will also write a number of editorials, columns, and reviews.

592-1 to 6 (1 to 3, 1 to 3, 1 to 3) Individual Research. Conduct of research reports for projects of an individual nature.

599-1 to 6 Thesis.

600-1 to 24 (1 to 16/semester) Dissertation.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Linguistics

E-mail: ling@siu.edu

COLLEGE OF LIBERAL ARTS

Angelis, Paul, Associate Professor and *Chair*, Ph.D., Georgetown University, 1968; 1981. Language testing, language teaching methodology, English for specific purposes.

Brutten, Sheila, Associate Professor, M.A., Southern Illinois University at Carbondale, 1965; 1968. TESOL, language testing, reading comprehension.

Friedenberg, Joan, Professor, Ph.D., University of Illinois at Urbana-Champaign, 1979; 1994. Second language acquisition theory and methods, bilingual education, multicultural education, vocational ESL.

Fuller, Janet, Assistant Professor, Ph.D., University of South Carolina, 1997; 1997. Language contact and bilingualism, discourse analysis, sociolinguistics, pragmatics, second language acquisition.

Gilbert, Glenn G., Professor, Ph.D., Harvard University, 1963; 1970. Pidgin and creole languages, German, sociolinguistics, historical linguistics, dialectology, history of linguistics.

Johnson, Ruth, Assistant Professor, Ph.D., Florida State University, 1993; 1993. Speech perception, intercultural communication, TESOL methodology, computer-assisted instruction.

Kim, Alan, Associate Professor, Ph.D., University of Southern California, 1985; 1988. Syntactic theory, functional syntax, semantics, comparative linguistics, Japanese and Korean syntax.

The Department of Linguistics offers programs leading to the Master of Arts degree in applied linguistics and the Master of Arts degree in Teaching English to Speakers of Other Languages (TESOL).

Overview of Graduate Programs

The M.A. program in applied linguistics is designed to give students a broad training in most aspects of contemporary linguistics, including historical linguistics, phonology, pidgins and creoles, psycholinguistics, second language acquisition, sociolinguistics, and syntax. In addition, students will pursue the study of one area in depth through further coursework and thesis research. Graduates of the applied linguistics program frequently go on to more advanced study and research in linguistics leading to the Ph.D. degree.

Lakshmanan, Usha, Associate Professor, Ph.D., University of Michigan, 1989; 1990. First and second language acquisition, psycholinguistics, syntactic theory, tamil syntax.

Nathan, Geoffrey S., Associate Professor, Ph.D., University of Hawaii, 1978; 1980. Phonology, phonetics, cognitive grammar, syntax.

Nguyen, Dinh-Hoa, Professor, *Emeritus*, Ph.D., New York University, 1956; 1969.

Parish, Charles, Professor, *Emeritus*, Ph.D., University of New Mexico, 1959; 1965.

Perkins, Kyle, Professor, Ph.D., University of Michigan, 1976; 1976. Language testing, language teaching methodology, discourse theory and processing, the composing process, reading comprehension.

Redden, James E., Professor, *Emeritus*, Ph.D., Indiana University, 1965; 1967.

Wilhelm, Kim Hughes, Assistant Professor, Ph.D., Indiana University, 1992; 1993. Second language acquisition, language education (ESL/EFL/bilingual/foreign language), curriculum and materials design, teacher education, English for academic purposes, computer-assisted language learning.

Winters, Margaret E., Professor, Ph.D., University of Pennsylvania, 1975; 1977. Historical linguistics, Romance comparative linguistics, syntax/semantics, cognitive grammar.

The M.A. program in TESOL is designed primarily for students who wish to pursue careers in the teaching of English to speakers of other languages either in the United States or abroad. The program combines both theory and practice. In addition to core courses in linguistics, students in the TESOL program are required to take courses in the theory and methods of language teaching and to teach in two supervised practicums in the teaching of oral and written English. Graduates of the TESOL program can go on to advanced study of language learning and teaching or related fields.

For students who are interested in language study but are not committed to either graduate major, the department offers a number of interesting, non-specialist courses which may serve as electives in degree programs such as those offered by the Departments of Anthropology, Communication Disorders and Sciences, English, Foreign Languages and Literatures, Psychology, Speech Communication, and the College of Education. A sequence of courses is also available for students wishing to pursue a double major combining applied linguistics, or TESOL with other programs at the master's level.

A non-refundable application fee of \$20.00 must be submitted with the application. Attach your check or money order, payable to Southern Illinois University, to the top of the application form. Do not send cash. Only checks or money orders payable to United States banks will be accepted. Applicants for admission should address inquiries to the Chair, Department of Linguistics, Southern Illinois University at Carbondale, Carbondale, IL 62901-4517, USA.

Admission to the Degree Programs

Undergraduate GPA. Applicants for admission to either degree program, in addition to meeting the requirements for admission to the Graduate School, are expected to have undergraduate grade point averages of at least 3.0 ($A = 4.0$). Applicants with GPA's below 3.0 may be granted conditional admission. However, students admitted on a conditional basis must earn a graduate GPA of 3.0 after the first 10 hours of letter-graded course work; failure to do so will result in the student being dropped from the program.

Foreign Language Requirement. All students who are native speakers of English must have completed at least one semester of study of a foreign language within the preceding five years (excluding high school) and have achieved a grade of *B* or better. Those students who have achieved proficiency in a foreign language by means other than graded academic study must demonstrate that they have achieved a minimum level of novice-mid as defined in the proficiency guidelines published by the American Council on the Teaching of Foreign Languages. Students may also fulfill this requirement by taking one semester of a foreign language with a grade of *B* or better while they are enrolled in their M.A. program. In recognition of their experience in learning English, international students who have learned English as a second or foreign language are exempt from this requirement.

TOEFL and GRE. International student applicants who are not native speakers of English must achieve a score of at least 570 on the Test of English as a Foreign Language (TOEFL). Although submission of scores on the Graduate Record Examination (GRE) is not required for admission to the Graduate School nor to the department, applicants are advised that high GRE scores put them at a competitive advantage when applying for university fellowships or departmental assistantships.

Grammar Test. All students entering either the M.A. program in applied linguistics or the M.A. program in TESOL must demonstrate a minimum level of knowledge of the grammar of English. This is assessed by a departmental

grammar test administered to all students at the beginning of their first term. Students who do not pass the test are provided with a list of grammar resources for self study and must retake and pass the grammar test prior to their second registration.

English Proficiency Tests. Applicants for admission must also demonstrate proficiency in written English, which is measured by a departmental examination given upon the student's arrival. Students who fail this test are required to take an undergraduate course in English composition (either ENGL 290 or LING 290) and pass the course with a grade of *B* or better. This course does not count for credit toward a graduate degree in applied linguistics or TESOL.

Academic Retention

Academic Probation. As required by the Graduate School, any student whose GPA falls below 3.0 will be placed on academic probation. Any student who fails to return to good standing after one term on academic probation will not be eligible to hold a graduate assistantship. Any student who fails to return to good standing after two terms on academic probation will be dropped from the program. Any student who accumulates three or more incompletes will be put on academic probation and may return to good standing by reducing the number of incompletes to two or fewer.

Minimum Grades in Core Courses. As described below, both M.A. programs include a number of core courses which are required of all students. These courses must be passed with a grade of *B* or better. Students who receive a grade lower than *B* on a core course must take the course again. They will register officially for the course and will be granted a letter of permission to do so from the department. Both grades will be counted in calculating GPA. Students who need to repeat core courses may take other courses concurrently or sequentially for which the core courses are prerequisites.

Grade Point Average to Graduate. All graduate work must be completed with an overall GPA of 3.0.

Master of Arts Degree in Applied Linguistics

The Master of Arts degree in applied linguistics encompasses a broad range of required core courses plus the opportunity to pursue the study of one area in depth through elective courses and a thesis. A minimum of 43 semester hours is required for the M.A. in applied linguistics, of which a minimum of three and a minimum of six may be allowed for the thesis (LING 599). A minimum of 15 semester hours must be at the 500 level.

Required Courses for the M.A. in Applied Linguistics (25 semester hours)

LING 401-4 General Linguistics
LING 402-3 Phonetics
LING 405-4 Phonological Theories
LING 406-3 Introduction to Historical Linguistics
LING 408-4 Syntactic Theory
LING 415-3 Sociolinguistics
LING 445-4 Psycholinguistics

Elective courses may be selected from courses offered within the department, or from courses taught by faculty in the Departments of Anthropology, Communication Disorders and Sciences, Computer Science, English, Foreign Languages and Literatures, Philosophy, Psychology, Speech Communication, and the College of Education. Where appropriate, students are encouraged to take courses in quantitative and ethnographic research methods taught in the Departments

of Educational Psychology and Anthropology. Students are also encouraged to attend the annual summer institutes sponsored by the Linguistic Society of America and TESOL. Credit will be allowed for course work successfully completed in this way.

A thesis is required of all students in the M.A. in applied linguistics program. The thesis is a written summary of a student's independent research conducted while enrolled in one of the department's M.A. programs. A thesis is expected to include a clear statement of the topic, identification of the particular issues to be investigated, a literature review, an explanation of the procedures followed, and an analysis and discussion of research findings. Each student writing a thesis must have a thesis committee composed of at least three faculty members, one of whom serves as chair of the committee and must be from the Department of Linguistics. The thesis must be submitted to a public oral examination by the student's committee. Detailed information regarding the thesis may be found in *Thesis Policies and Guidelines*, copies of which are available from the department.

Master of Arts Degree in Teaching English to Speakers of Other Languages

The M.A. degree in TESOL blends linguistic science with the art of classroom practice. It prepares students both intellectually and experientially, so that as teachers they are capable of making wise and informed choices among different language teaching approaches, methods, and techniques. In addition, students will understand how differences among individual students, teaching and learning situations, and social structures influence decisions they will be called upon to make as teachers. The TESOL master's program provides a firm and broad foundation in current theories of language and language learning and graduates will be prepared to take on professional careers such as teacher educator and curriculum specialist as well as classroom teacher.

There are three alternative ways to combine course work and research which are available for students enrolled in the M.A. degree program in TESOL:

Study Plan A. This study plan requires 32 semester hours of course work, written comprehensive examinations, and a research report. A minimum of 15 semester hours must be at the 500 level. Students who follow this plan may be able to complete all requirements for the M.A. in TESOL degree by full-time enrollment for three semesters.

Study Plan B. This plan requires 38 semester hours of course work and a research report. A minimum of 15 semester hours must be at the 500 level. Students who follow this plan may be able to complete all requirements for the degree by full-time enrollment for four semesters.

Study Plan C. This plan requires 38 semester hours of course work including a minimum of three and a maximum of six semester hours which may be allowed for a thesis (LING 599). A minimum of 15 semester hours must be at the 500 level. The thesis is subject to a public oral examination by the student's committee members. Students who follow this plan have the opportunity to study an area of interest in considerable depth and to carry out an empirical research project or to develop instructional materials or curricula. This plan requires at least four semesters of full-time enrollment.

Whichever study plan a student chooses, seven core courses are required. These core requirements are as follows.

Required Courses for the M.A. in TESOL (23 semester hours)

LING 401-4 General Linguistics

LING 402-3 Phonetics

LING 531-3 Pedagogical Grammar for TESOL

LING 541-3 Second Language Acquisition

LING 570-4 Theory and Methods of TESOL

LING 581-3 Practicum in Teaching Oral English

LING 585-3 Practicum in Teaching Written English

The remaining 9 to 15 semester hours of course work may be selected from electives offered by the Department of Linguistics. Occasionally, courses taught by faculty in related departments are used to complete elective requirements where such courses are appropriate to the student's area of specialization. Students are also encouraged to attend the annual summer institutes sponsored by TESOL and the Linguistic Society of America. Credit will be allowed for course work successfully completed in this way.

Written Comprehensive Examination. A written comprehensive examination is required by students in the M.A. in TESOL degree program who are following study plan A. Students must take and pass this examination, which covers several different areas of the program. The examination may not be taken more than twice. In order to be eligible to take the examination, students must have a graduate GPA of at least 3.0 at the time the examination is given and must have passed the departmental test of English grammar.

Research Report. A research report is required of students in the M.A. in TESOL degree program who are following study plans A or B. The research report is a written summary of a student's independent research conducted while enrolled in the M.A. in TESOL program. It is expected that the research report will be both quantitatively and qualitatively more extensive than a research paper done for any one course in the department. However, many students do use work done in a particular course and a paper from that course as a basis for the research report. Two faculty members serve as readers of the report and both faculty readers must approve the final draft of the report. Detailed information regarding the research report may be found in *Research Report Policies and Guidelines*, copies of which are available from the department.

Thesis. A thesis is required of students following study plan C in the M.A. in TESOL program. The thesis is a written summary of a student's independent research conducted while enrolled in one of the department's M.A. programs. A thesis is expected to include a clear statement of the topic, identification of the particular issues to be investigated, a literature review, an explanation of the procedures followed, and an analysis and discussion of research findings. Each student writing a thesis must have a thesis committee composed of at least three faculty members, one of whom serves as chair of the committee and must be from the Department of Linguistics. The thesis must be submitted to a public oral examination by the student's committee. Detailed information regarding the thesis may be found in *Thesis Policies and Guidelines*, copies of which are available from the department.

Courses (LING)

The Department of Linguistics offers courses toward the Master of Arts degree in applied linguistics and the Master of Arts degree in teaching of English to speakers of other languages (TESOL).

401-4 General Linguistics. Basic concepts and methods of general linguistics. Fundamentals of the nature, structure and functioning of language. Data manipulation and problem solving.

402-3 Phonetics. Theory and practice of articulatory phonetics.

403-3 English Phonology. Study of English phonology, including phonetics, phonemics and

prosodics. Prerequisite: 300 or 401, 402 or consent of department.

404-3 American Dialects. Regional variation and social stratification of American English. Phonological and syntactic differences among the major dialects of American English. Prerequisite: one previous course in linguistics.

405-4 Phonological Theories. A survey of various phonological theories from the 19th century up to the present, including theoretical issues arising therefrom and relationships among the theories. Limited data analysis within the perspectives of the different theories. Prerequisite: 300 or 401, 402.

406-3 Introduction to Historical Linguistics. An introductory survey of historical and comparative linguistics, including terminology, assumptions and methods of investigation. Satisfies the COLA Writing-Across-the-Curriculum requirement. Prerequisite: 405 or consent of instructor, 408 recommended.

408-4 Syntactic Theory. This course is an introduction to the major concepts and issues in generative grammar. Data from English and other languages will be examined and students will be provided with numerous opportunities to solve problems in syntax. Students will also be given an opportunity to carry out an individual project in syntax. Prerequisite: 300 or 401 or consent of instructor.

409-3 Linguistic Structure of Modern German. (Same as German 411.) The descriptive study of phonology, grammatical structure, and vocabulary of modern German with consideration of its structural differences from English and application to teaching. Appropriate for students with at least two years of German. Conducted in English.

411-3 The Linguistic Structure of Chinese. (Same as Chinese 410.) Phonology and syntax of Mandarin Chinese. Principal phonological features of major Chinese dialects. Special emphasis on the contrastive analysis between Mandarin Chinese and English. Theoretical implications of Chinese syntax for current linguistic theories. Prerequisite: one year of Chinese or Linguistics 401.

412-3 The Linguistic Structure of Japanese. (Same as Japanese 410.) Inductive approach to the analysis of various aspects (such as phonology, morphology, syntax) of Japanese grammar with emphasis on syntactic structures within any of the current theoretical frameworks such as pragmatics, functionalism and formal linguistics. May include contrastive analysis between Japanese and English, and close examination of theories of comparative-historical linguistics of Japanese and Korean. Prerequisite: one year of Japanese or one previous course in linguistics or consent of instructor.

413-3 Linguistic Structure of French. (Same as French 411.) Study of the phonology, morphology and syntax of modern spoken and written French, stressing interference areas for English speakers in learning French. Prerequisite: French 320a and 321 or equivalent.

414-3 Linguistic Structure of Spanish. (Same as Spanish 411.) Theory and practice in Spanish pronunciation and study of Spanish grammatical

structure, in contrast to English, with application to teaching.

415-3 Sociolinguistics. History, methodology and future prospects in the study of social dialectology, linguistic geography, multilingualism, languages in contact, pidgin and creole languages, and language planning. Prerequisite: one previous course in linguistics or consent of instructor.

425-3 Philosophy of Language. (Same as Philosophy 425.) An investigation into the way language is based on the nature of human cognitive structures, including metaphor, prototypes, frames and various kinds of imaginative structures. Central topics include the grounding of meaning and conceptual structure in bodily experience, the role of imagination in reasoning and the metaphorical nature of thought.

430-3 to 6 (3,3) Grammatical Structures. Detailed analysis of the structure of particular languages. May be repeated to a total of six hours credit with consent of instructor. Prerequisite: one previous course in linguistics or consent of instructor.

440-1 to 6 (1 to 3 per topic) Topics in Linguistics. Selected topics in theoretical and applied linguistics. May be repeated to a total of six hours credit with consent of instructor. Prerequisite: one previous course in linguistics or consent of instructor.

442-3 Language Planning. Survey of the field of language planning: definitions and typologies, language problems, language treatment, attitudes and beliefs about language, relations between language planning processes and other kinds of social and economic planning, linguistic innovations and other processes of language change, implementation of language policies. Prerequisite: 300 or 401.

445-4 Psycholinguistics. (Same as Psychology 445.) A broad spectrum introduction to psycholinguistics. Topics to be covered include general methodology for the study of psycholinguistics, the nature of language, theories of human communication, language comprehension and production, first and second language acquisition, meaning and thought, natural animal communication systems, and language and the brain.

450-3 to 6 (3,3) Language Families. A synchronic survey of particular language families or sub-families. May be repeated to a total of six hours credit with consent of instructor. Prerequisite: one previous course in linguistics or consent of instructor.

501-3 Approaches to Error Analysis. Theory and methodology of contrastive analysis and error analysis. Application of both methodologies to comparison of English syntactic and phonological structures with those of other languages. Prerequisite: 405 and either 408 or 531, or consent of instructor.

506-4 Historical Linguistics. Theories and methods in the study of the history and prehistory of languages and language families. Prerequisite: 405 and 406, or consent of department.

507-3 Pidgin and Creole Languages. (Same as Anthropology 540.) Survey of the world's pidgins and creoles, with emphasis on the English-based Atlantic creoles. Comparison of creolization with first and second language acquisition and with the origin and evolutionary development of hu-

man language. Prerequisite: one previous course in linguistics or consent of instructor.

510-3 History of Linguistics. The history of linguistic inquiry from classical times to the present. Prerequisite: one previous course in linguistics or consent of instructor.

531-3 Pedagogical Grammar. This course explores the relationships among language structure, language learning and language teaching in order to understand the role of grammar in TESOL. The primary aims of the course are to enable students to: (1) become more aware of the way the English language works, (2) become aware of the kinds of language that ESL learners produce and the reasons why they proceed through certain stages, and (3) understand the role and effects of grammatical consciousness raising in the development of English as a second language. Prerequisite: 401 and 570 or consent of instructor.

540-3 to 12 (3 per topic) Studies in Applied Linguistics. Selected topics in applied linguistics. (a) Research methods, (b) pragmatics, (c) other. May be repeated as topics vary to a total of 12 hours of credit with consent of department. Maximum of 6 hours applicable toward a Master's degree. Prerequisite: one previous course in linguistics or consent of department.

541-3 Introduction to Second Language Acquisition. This course is an introduction to the key concepts and the major theoretical and methodological issues in second language acquisition research. The major developments in SLA in the areas of phonology, morphology, lexis, syntax, semantics and discourse will be examined and students will be provided with hands-on experience in describing and accounting for second language data. Students will also be given an opportunity to design and implement a data-based study in an area of interest to them. Prerequisite: 401 or consent of instructor.

542-3 Advanced Seminar in Second Language Acquisition. Research seminar in second language acquisition on selected topics such as universal grammar in SLA, language transfer, variation in SLA, second language learnability, etc. Prerequisite: 541 or consent of instructor.

546-3 Conversation Analysis: Pragmatics. (Same as Speech Communication 546.) Study of the pragmatics of everyday conversation: sequential organization, topical coherence, speech act rules and functions, contextual frames and background understandings. Emphasis on observational research methods and analysis of original data. Prerequisite: consent of instructor.

547-3 Conversation Analysis: Ethnomethodology. (Same as Speech Communication 547) Descriptive study of sequential organization of interaction. Students read research literature and learn methods for transcription and analysis in the conversation analytic tradition. Topics include openings and closings, adjacency pair organization, turn taking, overlap, assessments, pre-sequences, repair, topic, nonvocal activities, response, laughter, storytelling, argument, play and institutional contexts. Prerequisite: consent of instructor.

548-3 Lexicography. An introduction to the art and craft of dictionary-making: differences between dictionaries and other reference works; his-

tory of dictionaries around the world; how dictionaries are produced, evaluated, selected, and used; bilingual vs. monolingual dictionaries in the teaching and learning of English and other languages.

550-4 to 8 (4 per topic) Seminar in Theoretical Linguistics. Guided advanced research in (a) syntax and semantics, (b) phonology, (c) sociolinguistics, (d) selected topics. Sections (a) through (c) may be taken only once each. Section (d) may be repeated as topics vary. Prerequisite: consent of department.

570-4 Theory and Methods of TESOL. Theory and methods of teaching English to speakers of other languages, techniques and procedures in teaching most language skills, comparative and current methodology.

572-3 Materials Preparation in TESOL. Theory and practice in development of texts for the teaching of English to speakers of other languages. Prerequisite: 570 or consent of instructor.

573-3 Computer-Assisted Language Learning. An introduction to the use of microcomputers in the teaching of foreign languages, in particular the teaching of English to speakers of other languages. Course topics include: a survey of existing application programs used in language learning, review of research into the effectiveness of computer-assisted language learning and testing and development of basic skills in designing and programming language learning applications. Prerequisite: 570 or consent of instructor.

575-3 Language Testing. Discussion of different second language (L2) testing purposes, characteristics of good L2 tests, process of L2 test development, evaluation and revision of L2 tests, interpretation and reporting of L2 test results, current trends in L2 testing. Prerequisite: 570 or consent of instructor.

580-3 to 6 Seminar in Special Topics in TESOL. Selected topics in special areas of teaching English to speakers of other languages. (a) Administration of intensive English programs, (b) Teaching English abroad, (c) Selected topics. Sections (a) and (b) may be taken only once each. Section (c) may be repeated as topics vary. Prerequisite: 570 or consent of instructor.

581-3 Practicum in Teaching Oral English. Class observation and supervised practice teaching of speaking and listening skills in English to speakers of other languages; meets concurrently with Linguistics 100. Prerequisite: 402 and 570.

582-3 Course Design for TESOL. A review of issues and procedures in the design and implementation of courses for teaching English to speakers of other languages. Particular attention is given to recent developments such as content-based instruction. All major course components such as setting of objectives, syllabus design, content specification and evaluation are considered. In addition, resources available for addressing these issues will be discussed. Prerequisite: 570 or consent of instructor.

584-3 Teaching Composition in a Second Language. Analysis of current theories of composition in a second language, research on the nature, process, and applications of research for the teaching of writing in a second language. Prerequisite: 570 or consent of instructor.

585-3 Practicum in Teaching Written English. Objectives, methods and materials for a variety of ESOL composition courses. Observation and practice under supervision. Prerequisite: consent of instructor.

586-3 English for Specific Purposes. A course designed to familiarize students with key components of English language courses designed for speakers of other languages with specific needs or in well-defined settings. Case studies and sample courses are reviewed and students develop individual projects related to a content area or course component of their choice, e.g., needs assessment, syllabus design, materials development or teacher training. Prerequisite: 570 or consent of instructor.

587-3 Teaching Reading in a Second Language. Analysis of theories of reading in a second language (L2) and research into the nature of L2 reading. Observation and practice in developing L2 reading materials and teaching techniques

under supervision. Prerequisite: 570 or consent of instructor.

593-1 to 4 Research in Linguistics. Individual research under graduate faculty guidance. Prerequisite: consent of instructor.

597-1 to 8 Readings in Linguistics. Individual readings in linguistics under graduate faculty guidance. Prerequisite: consent of department.

599-1 to 6 Thesis. Minimum of three hours to be counted toward a Master's degree. Prerequisite: consent of department.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Management

(See Business Administration.)

Manufacturing Systems

E-mail: cstagner@siu.edu
butson@siu.edu

COLLEGE OF ENGINEERING

Abrate, Serge, Associate Professor, Ph.D., Purdue University, 1983; 1995.

Andrews, Paul, Associate Professor, *Emeritus*, Ph.D., Southern Illinois University at Carbondale, 1979; 1971.

Barbay, Joseph E., Jr., Associate Professor, Ph.D., University of Missouri-Columbia, 1971; 1970.

Besterfield, Dale H., Professor, *Emeritus*, Ph.D., Southern Illinois University at Carbondale, 1971; 1962.

Butson, Gary J., Associate Professor and *Chair*, Ph.D., University of Illinois, 1981; 1992.

Chang, Feng-Chang, Associate Professor, Ph.D., Ohio State University, 1985; 1991.

Ferketich, Robert R., Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1980; 1971.

Lindsey, Jefferson F., III, Professor, D. Engr., Lamar University, 1976; 1980.

Orr, James P., Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1983; 1979.

Rong, Yiming, Associate Professor, Ph.D., University of Kentucky, 1989; 1990.

Spoerre, Julie K., Assistant Professor, Ph.D., Florida State University, 1995; 1995.

Szary, Marek, Assistant Professor, Ph.D., Wroclaw (Poland), 1977; 1984.

Velasco, Tomas, Assistant Professor, Ph.D., University of Arkansas, 1991; 1993.

Weston, Alan J., Assistant Professor, Ph.D., Southern Illinois University at Carbondale, 1991; 1991.

Master of Science in Manufacturing Systems

Graduate work leading to a Master of Science degree in manufacturing systems is offered by the College of Engineering. The objective of the program is to develop manufacturing professionals who can design and implement modern manufacturing systems to increase productivity and improve product quality. Course offerings and research are available in manufacturing processes and control, quality control, and computer applications. The program provides advanced education for students with baccalaureate degrees in technology and also an excellent continuing education opportunity for individuals with technical degrees who wish to expand their education in the area of manufacturing systems.

Admission

Candidates for this program must be accepted by the Graduate School and the Department of Technology. Candidates should possess a bachelor's degree with a major in a technical area and have a GPA of no less than 3.0/4.0. A student whose undergraduate training is deficient may be required to take additional courses to compensate for deficiencies identified by the technology graduate program committee.

A non-refundable application fee of \$20.00 must be submitted with the application. Attach your check or money order, payable to Southern Illinois University, to the top of the application form. Do not send cash. Only checks or money orders payable to United States banks will be accepted.

Program Requirements

The program in the thesis option requires a minimum of 30 semester hours of acceptable graduate credit, 18 semester hours of which is in manufacturing systems.

Students will complete a master's thesis, having 6 semester hours of credit, and be required to pass a comprehensive examination covering all of the student's graduate work and thesis.

Within the 30 semester hour requirement, students must complete the following core courses or their equivalents:

MFGS 505 Research Methods

MFGS 510-3 Recent Advances in Quality Assurance

MFGS 520-3 Computer-Aided Manufacturing II

MFGS 540-3 Product Reliability Theory

MFGS 560-3 Automated Factory Technology

A program of study including the above required courses (15 semester hours), the master's thesis (6 semester hours), and the remaining 9 semester hours will be selected by the graduate adviser and the student.

If a student prefers the non-thesis option, a minimum of 36 semester hours of acceptable graduate credit including the 15 semester hours of core courses is required. The student is expected to take at least 21 semester hours within the major department including no more than 3 semester hours of MFGS 592 to be devoted to the preparation of a research paper. In addition, each candidate is required to pass a written comprehensive examination.

Each student will select a minimum of 3 technology graduate faculty members to serve as a graduate committee, subject to approval of the director of the graduate program. The committee will:

1. approve the student's program of study,
2. approve the student's research paper topic,
3. approve the completed research paper, and
4. administer and approve the written comprehensive examination.

Additional Information

Teaching or research assistantships and fellowships are available for qualified applicants. Additional information about programs, courses, assistantships, and fellowships may be obtained from the College of Engineering or from the chair of the department.

Courses (MFGS)

505-3 Research Methods. The objective of this course is to familiarize the students with the methods needed in research. Emphasis is placed on how these methods can be applied in the manufacturing systems area. Topics include development of research proposals, use of statistics in the analysis and communication of the results.

Prerequisite: enrollment in manufacturing systems program or consent of instructor.

510-3 Recent Advances in Quality Assurance. Study of recent advances in quality planning, quality measurement, design assurance, process control, participatory management, supplier quality, customer relations and improvement con-

cepts. Prerequisite: 505 and Industrial Technology 475.

520-3 Computer-Aided Manufacturing II. Advanced study of the use of computers in the manufacture of products. Emphasis is placed on CAD/CAM integration, CAM generated data and current CAM languages. Prerequisite: Industrial Technology 445.

525-3 Computer Integrated Manufacturing. Theory and practice of using the computer to integrate the functional manufacturing areas into an effective system. Use of applications software is emphasized. Prerequisite: Industrial Technology 445 and 475.

530-3 Mechanical Aspects of Robots. Advanced application of mechanics, mechanisms, hydraulics, pneumatics, strength of materials and machine design to robotics. Prerequisite: Industrial Technology 455.

535-3 Computer Control of Manufacturing Systems. Application of computer technology to the control of manufacturing equipment, processes and systems. Emphasis is placed on the hardware aspects from an overall systems viewpoint. Prerequisite: Industrial Technology 455.

540-3 Manufacturing Reliability Analysis. The objective of this course is to provide the student with an overview of the basic techniques applied in the field of reliability and failure data analysis in a manufacturing environment. Prerequisite: 505.

545-3 Electrical and Electronic Aspects of Robots. Analysis of servo motors, actuators, sen-

sors and noise and feedback technique that drive robot manipulators. Prerequisite: Industrial Technology 455.

560-3 Automated Factory. Advanced study of the integration of robots, automated assemble, automated storage and retrieval systems, automated inspection and computer-controlled transfer systems. Economic justification and implementation are emphasized. Prerequisite: 520, Industrial Technology 455.

580-1 to 4 Seminar. Collective and individual study of issues and problems related to manufacturing systems. Graded *S/U*. Prerequisite: enrollment in the M.S. degree in manufacturing systems.

592-1 to 4 Special Investigations in Manufacturing Systems. Advanced topics in manufacturing systems. Topics are selected by mutual agreement of the student and the instructor. Prerequisite: consent of adviser.

599-1 to 6 Thesis.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Marketing

(See Business Administration)

Mathematics

E-mail: gradinfo@math.siu.edu

COLLEGE OF SCIENCE

Bhattacharyya, Bhaskar, Assistant Professor, Ph.D., University of Iowa, 1993; 1993. Order restricted statistical inference, I-projections, linear models, multivariate analysis.

Budzban, Gregory, Associate Professor, Ph.D., University of South Florida, 1991; 1991. Probability on algebraic structures, markov random fields, neural networks.

Burton, Theodore A., Professor, Ph.D., Washington State University, 1964; 1966. Differential equations: ordinary, delay, functional, volterra, partial; mathematical biology; applied mathematics.

Chen, Pei-Li, Associate Professor, Ph.D., State University of New York at Buffalo, 1988; 1990. Nonlinear partial and ordinary differential equations, applied mathematics, mathematical biology, geometrical PDE.

Clark, Lane, Associate Professor, Ph.D., University of New Mexico, 1980; 1991. Combinatorics and graph theory.

Crenshaw, James A., Associate Professor, *Emeritus*, Ph.D., University of Illinois, 1967; 1967.

Danhof, Kenneth, Professor, Ph.D., Purdue University, 1969; 1969. Logic, combinatorics.

Dharmadhikari, Sudhakar, Professor, Ph.D., University of California, Berkeley, 1962; 1978. Statistics, sampling theory, probability, multivariate analysis.

Earnest, Andrew G., Professor and *Chair*, Ph.D., Ohio State University, 1975; 1981. Algebra and algebraic number theory, arithmetic theory of quadratic forms.

Feinsilver, Philip, Professor, Ph.D., New York University (Courant), 1975; 1978. Probability theory, representation theory.

Fitzgerald, Robert W., Professor, Ph.D., University of California-Los Angeles, 1980; 1982. Quadratic forms, algebra.

Foland, Neal E., Professor, *Emeritus*, Ph.D., University of Missouri, 1961; 1965.

Gates, Leslie D., Associate Professor, *Emeritus*, Ph.D., Iowa State University, 1952; 1961.

Gregory, John, Professor, Ph.D., University of California, Los Angeles, 1969; 1972. Optimization theory, numerical analysis, applied functional analysis.

Grimmer, Ronald C., Professor, Ph.D., University of Iowa, 1967; 1967. Differential equations, integral equations, applied mathematics.

Hooker, John W., Professor, Ph.D., University of Oklahoma, 1967; 1967. Ordinary differential equations, difference equations.

Hughes, Harry R., Associate Professor, Ph.D., Northwestern University, 1988; 1989. Stochastic processes, stochastic geometry.

Hunsaker, Worthen N., Professor, Ph.D., Washington State University, 1966; 1969. General topology, quasi-uniform spaces, ordered topological spaces, frames.

Jeyaratnam, Sakthivel, Professor, Ph.D., Colorado State University, 1978; 1981. Statistics, linear models, variance components, robust inference.

Kammler, David W., Professor, Ph.D., University of Michigan, 1971; 1971. Approximation theory, fourier analysis, numerical analysis, applications of mathematics.

Kim, Henry H., Assistant Professor, Ph.D., University of Chicago, 1992; 1995. Modular forms, algebra.

Kirk, Ronald B., Professor, Ph.D., California Institute of Technology, 1968; 1968. Probability (markov processes, diffusions, martingales), functional analysis.

Koch, Charles, Assistant Professor, *Emeritus*, Ph.D., University of Illinois, 1961; 1966.

Langenhop, Carl E., Professor, *Emeritus*, Ph.D., Iowa State University, 1948; 1961.

Lei, Junjiang, Associate Professor, Ph.D., University of Oregon, 1991; 1994. Numerical analysis, approximation theory.

Mark, Abraham M., Professor, *Emeritus*, Ph.D., Cornell University, 1947; 1950.

Maxwell, Charles, Professor, *Emeritus*, Ph.D., University of Illinois, 1955; 1963.

Mohammed, Salah-Eldin A., Professor, Ph.D., University of Warwick, England, 1976; 1984. Functional differential equations, stochastic differential equations, global analysis.

Moore, Robert A., Associate Professor, *Emeritus*, Ph.D., Indiana University, 1961; 1965.

Neuman, Edward, Professor, Ph.D., University of Wroclaw, Poland, 1972; 1984. Numerical analysis, spline functions, approximation theory, special functions.

Paine, Thomas B., Assistant Professor, *Emeritus*, Ph.D., University of Oregon (Eugene), 1966; 1966.

Panchapakesan, S., Professor, Ph.D., Purdue University, 1969; 1970. Multiple decision procedures, reliability, order statistics.

Parker, George D., Associate Professor, Ph.D., University of California at San Diego, 1971; 1972. Differential geometry, classical geometry, linear programming, computer modeling of coal industry and environmental legislation.

Patula, William T., Professor, Ph.D., Carnegie-Mellon University, 1971; 1972. Ordinary differential equations, difference equations.

Pedersen, Franklin D., Associate Professor, *Emeritus*, Ph.D., Tulane University, 1967; 1965.

Pericak-Spector, Kathleen A., Associate Professor, Ph.D., Carnegie-Mellon University, 1980; 1981. Hyperbolic partial differential equations, continuum mechanics, science education.

Porter, Thomas, Associate Professor, Ph.D., University of New Mexico, 1990; 1990. Combinatorial analysis, graph theory.

Redmond, Donald, Associate Professor, Ph.D., University of Illinois, 1976; 1979. Analytic number theory, elementary number theory, classical analysis, history of mathematics.

Skalsky, Michael, Professor, *Emeritus*, D.Nat.Sc., University of Gottingen, 1949; 1957.

Snyder, Herbert H., Professor, *Emeritus*, Ph.D., Lehigh University, 1965; Ph.D., University of South Africa, 1971; 1966.

Spector, Scott J., Professor, Ph.D., Carnegie-Mellon University, 1978; 1981. Continuum mechanics, elasticity, nonlinear partial differential equations.

Sullivan, Michael C., Assistant Professor, Ph.D., The University of Texas at Austin, 1992; 1996. Topological Dynamics.

Wallis, Walter D., Professor, Ph.D., University of Sydney, 1968; 1985. Combinatorics, neural networks.

Wilson, Joseph C., Professor, *Emeritus*, Ph.D., Louisiana State University, 1954; 1957.

Wright, Mary H., Professor, Ph.D., McGill University, Montreal, Quebec, 1977; 1980. Rings and modules: structure of modules, prime ideals and localization over serial rings with Krull dimension.

Yucas, Joseph, Professor, Ph.D., Pennsylvania State University, 1978; 1980. Algebra, combinatorics.

Zeman, Marvin, Professor, Ph.D., New York University, 1974; 1979. Partial differential equations, integro-differential equations, numerical analysis.

The Department of Mathematics offers graduate degree programs leading to the Master of Arts or Master of Science degree in mathematics and the Doctor of Philosophy degree in mathematics. Students in the master's program can choose from a rich assortment of courses in both pure and applied mathematics and statistics. Each master's degree candidate works closely with a professor in writing a research paper in an area of interest to the student. At the doctoral level, a student may specialize in any one of a large number of fields such as algebra, applied mathematics, combinatorics, computational mathematics, control the-

ory, differential equations, numerical analysis, probability, or statistics. Interdisciplinary programs are also available.

Students interested in the teaching of mathematics may select a minor concentration in education within the Master of Science program in mathematics. Minor work for graduate degrees in other fields, which allow for a minor, is also offered.

Acceptance for graduate study in mathematics and subsequent continuation in the graduate program are at the discretion of the Department of Mathematics, provided that the student has been admitted to the Graduate School and meets the retention standards of the Graduate School. All applicants for the graduate program are considered for teaching assistantships. In order to be considered for a fellowship the applicant must take the GRE exam and *all* applicants are strongly encouraged to take the GRE General Test.

In addition to general rules, regulations, and requirements of the Graduate School, the following specific requirements pertain to the degrees available in mathematics.

Master of Science Degree in Mathematics

Students will be considered for acceptance into the M.S. degree in mathematics program if they have completed an undergraduate major in mathematics or a strong undergraduate minor in mathematics together with a major in a closely related discipline.

Once accepted, the requirements are as follows:

1. The candidate must complete a total of at least 30 semester hours of graduate credit approved by the graduate adviser of which 15 hours must be at the 500 level and at least 21 hours must be in courses (exclusive of 400, 417, 458, 511, 592) offered by the Department of Mathematics. A minor concentration may be taken outside of the department if approved by the graduate adviser during the student's first semester in the master's program.
2. The candidate's program must include at least one 400- or 500-level course from each of 4 of the following areas: (1) pure and applied algebra; (2) pure analysis; (3) applied analysis; (4) geometry and topology; (5) probability and statistics. This requirement may be met in whole or in part by means of equivalent courses taken elsewhere prior to acceptance for graduate study in the department.
3. The candidate must prepare a research paper or thesis (3 hours credit in MATH 595 or 599) under the supervision of a research adviser and two other faculty members from the department. This committee will be appointed by the graduate adviser after consultation with all those involved.
4. The candidate must demonstrate satisfactory performance on a final oral examination covering the graduate course work and the research paper or thesis. This examination will be conducted by the 3 members of the candidate's committee and moderated by the research adviser. The student will pass the examination if the research adviser and at least 1 of the other 2 committee members so agree.

Master of Arts Degree in Mathematics

Students will be considered for acceptance into the M.A. degree in mathematics program if they have completed with distinction the equivalent of a strong undergraduate major in mathematics. Once accepted, the requirements are as follows:

1. The candidate must complete a total of 30 semester hours of graduate level mathematics courses of which at least 15 must be at the 500 level.
2. The candidate must complete with a grade of *B* or better each of the courses MATH 419, 421, 430, 452, and at least 3 of the courses MATH 501,

519, 530, 555. This requirement may be met in whole or in part by means of equivalent courses taken elsewhere.

3. The candidate must demonstrate the ability to read mathematical literature in French, German, or Russian. This may be certified by passing with a grade of *B* or better the research tool course 488 offered by the Department of Foreign Languages and Literatures, by passing with a score of 465 or better an examination given by the Educational Testing Service of Princeton, NJ, or by passing a suitable examination given by a faculty member from the Department of Mathematics who has been approved by the graduate adviser.
4. The candidate must prepare a thesis (3 hours credit in MATH 599) under the supervision of a thesis adviser and 2 other faculty members from the department. This committee will be appointed by the graduate adviser after consultation with all those involved.
5. The candidate must demonstrate satisfactory performance on a final oral examination covering the graduate course work and the thesis. This examination will be given by the 3 members of the candidate's committee and chaired by the thesis adviser. The student will pass the examination if the thesis adviser and at least 1 of the other 2 committee members so agree.

Doctor of Philosophy Degree

Students will be considered for acceptance into the doctoral program if they have completed with distinction a graduate program comparable to that required for a master's degree in mathematics, statistics, or computer science at SIUC. Additional evidence of outstanding scholarly ability or achievement (e.g., a high score on the advanced section of the Graduate Record Examination or published research papers of high quality) will lend strength to the application. Students must have completed 419, 421, 430, and 452 or their equivalent before entering the doctoral program.

Once admitted, the requirements are as follows:

1. The candidate must pass the departmental qualifying examination by the end of the February following the second fall semester in the doctoral program. This qualifying examination, which is given twice annually in February and September, covers 3 areas each of which is commensurate with a regularly scheduled 500 level graduate course at SIUC. After consultation with the graduate adviser candidates will choose the 3 areas over which they are to be examined, with 2 of 3 chosen from MATH 501, 519, 530, 580 including at least one of 501 and 519. The coursework in two courses chosen from the list of four above will not be counted toward completing the major area discussed in 3. below. The third area normally corresponds to another regularly scheduled 500 level mathematics course but with the approval of the graduate adviser the third area may be chosen from a related field outside the department. A candidate who fails the qualifying examination within the allotted time will be dropped from the doctoral program.
2. The candidate must demonstrate competence with two research tools. The ability to read mathematics in any one of the languages French, German, or Russian serves as a tool. This may be certified by passing with a grade of *B* or better the research tool course 488 offered by the Department of Foreign Languages and Literatures, by passing with a score of 465 or better an examination given by the Educational Testing Service of Princeton, NJ, or by passing a suitable examination given by a faculty member from the Department of Mathematics who has been appointed by the graduate adviser. A proficiency in computer programming will also serve as a research tool. This may be certified by passing with a grade of *B* or better CS 202 and CS 220 or by passing a suitable examination given by a faculty mem-

ber from the Department of Mathematics who has been appointed by the graduate adviser.

3. Mathematics 501, 519, and 530, or their equivalent are required courses for all doctoral students. The candidate must complete a major (12 hours) and two minors (6 hours each) chosen from the following list: algebra, analysis, applied mathematics, combinatorics, differential equations, number theory, numerical analysis, probability and statistics, topology, and geometry. The course work in the major and minor areas must be at the 500 level and exclusive of the courses used to satisfy the qualifying exam.
4. The candidate must file a request with the graduate adviser to appoint a dissertation committee to supervise the remaining doctoral work. This committee shall consist of 5 members with the candidate's dissertation adviser as chair. At least one member of the committee must represent each of the minor areas, and the dissertation adviser and one other member will represent the major area. One member of the committee will be chosen from outside of the department. This committee will be appointed by the graduate adviser after consultation with the candidate, the proposed dissertation adviser, the department chair, and the other faculty members involved.
5. The candidate must pass a preliminary examination over the major and minor areas. This examination will normally be given after satisfying the research tools requirement and within 18 months after passing the qualifying examination. The preliminary examination will consist of a written examination over the major area and an oral examination over the major and the two minor areas. This examination will be prepared, administered, and evaluated by the dissertation committee. Any member of the graduate faculty may attend the oral portion of the preliminary examination and (at the discretion of the committee chair) question the candidate. The candidate will pass the preliminary examination provided that 4 members of the committee including the chair so agree. A report on the examination will be included with the candidate's official academic records. In the event that the candidate's performance is unsatisfactory, the committee as a whole shall decide on the time and content of an appropriate re-examination. A candidate who fails the re-examination will be dropped from the doctoral program.

In unusual circumstances a candidate who has passed the preliminary examination may wish to change the major area or dissertation adviser. This will be allowed if the graduate adviser and department chair so agree in which case the dissertation committee will be reconstituted in an appropriate manner. The revised committee may then prescribe additional course work and require the candidate to retake the preliminary examination.

6. The candidate must be officially admitted to candidacy for the Ph.D. degree. This will be done after all of the above requirements have been met.
7. The candidate must complete a dissertation (representing at least 24 hours in MATH 600) under the supervision of the candidate's dissertation adviser. The dissertation adviser and the other 4 members of the dissertation committee will evaluate the quality of the completed work which must conform to high literary and scholastic standards and constitute an original and publishable contribution to mathematics. A final oral examination will be conducted by the dissertation committee. During this examination the candidate will first present the major results of the dissertation and then respond to questions. Any member of the University graduate faculty may attend and (at the discretion of the dissertation adviser) ask related questions. The dissertation will be accepted provided the dissertation adviser and at least 3 of the other 4 members of the committee so agree.

For students interested in the doctoral degree program with an emphasis in computational mathematics, the entrance requirements are 419, 421, 452, and CS 451. Once students are admitted, the preceding paragraphs 1 through 7 apply except for the following. Courses for the qualifying exam are CS 555, one from 501 or 519, and one other 500 level mathematics course (preferably 549 or 575). For the preliminary examination, computer science can be a minor area. The program must also include mathematics 501, 519, and 549 (in lieu of 530) or their equivalents.

As a matter of policy, the Department of Mathematics does not provide any student working for a master's degree financial support for more than two years nor a Ph.D. student more than four years past the master's or master's equivalent.

Courses (MATH)

400-3 History of Mathematics. An introduction to the development of major mathematics concepts. Particular attention given to the evolution of the abstract concept of space, to the evolution of abstract algebra, to the evolution of the function concept, and to the changes in the concept of rigor in mathematics from 600 B.C. Does not count toward a mathematics major in the College of Liberal Arts or in the College of Science. Prerequisite: 319 and 352 or consent of instructor.

405-3 Intermediate Ordinary Differential Equations. Topics selected from linear systems, existence and uniqueness for initial value and boundary value problems, oscillation and stability. Prerequisite: 305.

406-3 Eigenfunction Analysis. Discrete and continuous models for the vibrating string; separation of variables and eigenfunction analysis; inner product spaces; operators on inner product spaces; the spectral theorem for Hermitian operators on finite dimensional spaces with applications; the singular value decomposition of operators on finite dimensional spaces; the Courant-Fischer max-min characterization of eigenvalues; the spectral theorem for compact Hermitian operators with applications to Sturm-Liouville boundary value problems and Fredholm integral equations. Prerequisite: 221 and 305.

407-3 Introduction to Partial Differential Equations. First order linear and quasilinear partial differential equations, characteristics, second order linear partial differential equations, classification of types, boundary value and initial value problems, well posed problems, the wave equation, domain of dependence, range of influence, Laplace's equation and Dirichlet problems, the maximum principle. Poisson's integral, fundamental solution of the heat equation. Prerequisite: 251, 305.

409-3 Introduction to Fourier Analysis. The Fourier synthesis and analysis equations for periodic and aperiodic functions on the reals and the integers; convolution; the calculus for finding Fourier transforms; operators associated with Fourier analysis; the FFT and algorithms and fast convolution; generalized functions; the sampling theorem; wavelets; selected applications of Fourier analysis to partial differential equations, probability, synthesis of musical tunes, diffraction, image processing. Prerequisite: 221 and 305.

411-1 to 6 (1 to 3, 1 to 3) Mathematical Topics for Teachers. Variety of short courses in math-

ematical ideas useful in curriculum enrichment in elementary and secondary mathematics. May be repeated as topics vary. Does not count toward a mathematics major.

412-3 Problem Solving Approaches to Basic Mathematical Skills. Content of basic skills at all levels of education and the development of these skills from elementary school through college; emphasis on problem solving and problem solving techniques; determination of student skills and proficiency level. Credit may not be applied toward degree requirements in mathematics. Prerequisite: 314 or equivalent.

419-3 Introduction to Abstract Algebra II. Solvable groups, maximal ideals, basis and dimension, elementary field extension theory, splitting fields, geometric constructions, elementary Galois theory, Galois group of a polynomial, solution of equations in radicals. Prerequisite: 319 or consent of instructor.

421-3 Linear Algebra. Fields, vector spaces over fields, triangular and Jordan forms of matrices, dual spaces and tensor products, bilinear forms, inner product spaces. Prerequisite: 221.

425-3 Theory of Numbers. Properties of integers, primes, divisibility, congruences, quadratic forms, diophantine equations, and other topics in number theory. Prerequisite: 319 or consent of department.

430-3 Introduction to Topology. Study of continuity, convergence, separation and compactness in the context of metric spaces and topological spaces. Prerequisite: 302 or 352 or consent of department.

435-3 Elementary Differential Geometry. An introduction to modern differential geometry through the study of curves and surfaces in \mathbb{R}^3 . Local curve theory with emphasis on the Serret-Frenet formulas; global curve theory including Fenchel's theorem; local surface theory motivated by curve theory; global surface theory including the Gauss-Bonnet theorem. Prerequisite: 251 and 221.

447-3 Introduction to Graph Theory. (Same as Computer Science 447.) Introduction to theory of graphs, digraphs, and networks and applications to electrical systems and computer science. Topics include blocks and cut-points, Eulerian graphs, trees, cycle and cocycle spaces, planarity and Kuratowski's Theorem, connectivity and Menger's Theorem, Hamiltonian graphs, colorability and Heawood's Theorem, flows in net-

works and Ford-Fulkerson Theorem, critical path analysis. Prerequisite: 349 or consent of instructor.

449-3 Introduction to Combinatorics. (Same as Computer Science 449.) An introduction to combinatorial mathematics with computing applications. Topics include selections and arrangements, generating functions, recursion, inclusion and exclusion, coding theory, block designs. Prerequisite: 349 or consent of instructor.

450-3 Methods of Advanced Calculus. Sequences and series of functions; partial differentiation; Jacobians; the implicit function theorem; the classical differential operators in general curvilinear coordinates; line, surface, volume integrals, the divergence and Stokes' theorems; transformation of variables in multiple integrals; integrals containing a parameter. Prerequisite: 251.

452-3 Introduction to Analysis. A rigorous development of one-variable calculus concepts including the real numbers, sets, limits of sequences, continuity of functions, differentiation, Riemann-Stieltjes integration, series of functions at a more advanced level than 352. Prerequisite: 251.

455-3 Introduction to Complex Analysis and Applications. Complex numbers, analytic functions, line integrals, the Cauchy-Goursat theorem and its implications, power series. Laurent series, polar and essential singularities, analytic continuation, contour integration, residue theorem, conformal mapping. Prerequisite: 251.

458-3 Statistical Methods in Business and Industry. Basic probability concepts; random variables; univariate and joint distributions; Bernoulli, binomial, Poisson, normal, exponential, gamma, chi-square, t and F distributions; sampling distributions; estimation by the method of moments and the method of maximum likelihood; confidence intervals; hypothesis tests for normal, Bernoulli and Poisson distributions; simple regressions and analysis of variance problems. Prerequisite: 140 or equivalent and graduate standing in College of Business and Administration or the College of Engineering and Technology.

460-3 Transformation Geometry. Geometry as the study of properties invariant under congruences, similarities, affine transformations and projectivities. Prerequisite: 221 and 319.

471-3 Introduction to Optimization Techniques. (Same as Computer Science 471.) Nature of optimization problems. General and special purpose methods of optimization, such as linear programming, classical optimization, separable programming, integer programming and dynamic programming. Prerequisite: 221, 250. Computer Science 202.

472-3 Linear Programming. (Same as Computer Science 472.) Nature and purpose of the linear programming model. Development of the simplex method. Application of the model to various problems. Duality theory. Transportation. Assignment problems. Postoptimality analysis. Prerequisite: 221 and Computer Science 202.

473-3 Reliability Theory. Formulation of the concept of reliability in terms of probability theory. Failure distributions and failure rates. Elements of renewal theory. Age and block replacement policies, optimal replacement policies, opti-

mal replacement policies for classes of failure distributions. Prerequisite: 480 or 483 or consent of department.

475-6 (3,3) Numerical Analysis. (Same as Computer Science 464.) An introduction to the theory and practice of computation with digital computers. Topics include the solution of nonlinear equations, interpolation and approximation, solution of systems of linear equations, numerical integration, solution of ordinary differential equations, computation of eigenvalues and eigenvectors and solution of partial differential equations. Prerequisite: (a) 221 and 250 and Computer Science 202 or equivalent programming proficiency; (b) 305 and 475a.

480-4 Introduction to Probability. A comprehensive introduction to probability theory at a level suited to upper-division undergraduates and first-year graduate students. Topics include: event spaces, probability functions, combinatorics, generating functions, conditional probability, independence, random variables, probability distributions, expectations, moments, characteristic functions, inversion formulas, sums of independent random variables, the multivariate normal distributions, the central limit theorem, the weak and strong laws of large numbers. Prerequisite: 251.

481-3 Elements of Stochastic Processes. An introduction, including normal, Poisson, and Markov processes. Prerequisite: 380 or 480.

483-4 Mathematical Statistics in Engineering and Physical Sciences I. Introduction to statistical theory with applications in engineering and the physical sciences. Probability: axioms, distributions including noncentral distributions, moments and moment generating functions, order statistics. Statistical inference: point and interval estimation, testing hypotheses, likelihood ratio tests. Prerequisite: 250.

484-4 Mathematical Statistics in Engineering and Physical Sciences II. An introduction to linear models and the design of experiments with applications in engineering and the physical sciences. Analysis of the general linear model, basic designs and criteria, response surface analysis and factor analysis. Statistical computation. Prerequisite: 483 and 221 or consent of instructor.

485-3 Applied Statistical Analysis. Elements of survey sampling including simple random and stratified sampling, ratio and regression estimates; elements of nonparametric methods including the sign, Wilcoxon and Kruskal-Wallis tests; analysis of categorical data including log-linear models. Prerequisite: 480 or 483 or consent of instructor.

495-1 to 6 Special Topics in Mathematics. Individual study or small group discussions in special areas of interest under the direction of a member of the faculty. Prerequisite: consent of chair and instructor.

501-3 Real Analysis. Structure of sets of real numbers; Lebesgue measure; measurable functions; integration; convergence theorems; functions of bounded variation; absolutely continuous functions; LP spaces; general measure spaces; radon-Nikodym theorem; product measures and Fubini's theorem. Prerequisite: 452.

502-3 Modern Analysis. Banach spaces; bounded operators; Baire category theorem and

its consequences; dual spaces; Hahn-Banach theorem; Hilbert spaces, Riesz representation theorem; Frechet derivatives; function spaces. Prerequisite: 501.

505-3 Ordinary Differential Equations. Existence and uniqueness theorems; general properties of solutions; linear systems; geometric theory of nonlinear equations; stability; self-adjoint boundary value problems; oscillation theorems. Prerequisite: 452 and 421 or consent of instructor.

506-1 to 12 Advanced Topics in Ordinary Differential Equations. Selected advanced topics in ordinary differential equations chosen from such areas as: stability, oscillations, functional differential equations, perturbations, limit point and limit circle, boundary value problems. Prerequisite: consent of instructor.

507-3 Partial Differential Equations. Origins of PDE's. The wave equation, potential equation, and heat equation. Initial and boundary value problems and questions of well posedness. Fundamental solutions and the related Riemann, Green, and Neumann functions. Classification of linear and quasilinear PDE's. Theory of characteristics. The Cauchy-Kowalawski theorem. The max-min principle, the energy-integral method and questions of uniqueness. Questions of existence. Prerequisite: 407 and 501.

508-3 Integral Equations. Origins of integral equations. Volterra equations of the first and second kind. Fredholm equations of the first and second kind. Fredholm's alternative theorem. The resolvent equation. Orthonormal eigensystems of a symmetric Fredholm operator. The Hilbert-Schmidt expansion theorem and its applications to Sturm-Liouville problems. Exact and approximation methods of solution. Prerequisite: 452 and 406 or 421.

511-3 Advanced Topics in the Teaching of Mathematics. (Same as Curriculum and Instruction 529.) Selected advanced topics in the teaching of mathematics chosen from such areas as: pedagogical theories; instructional strategies; applications of mathematics; problem solving. This course is counted by the Mathematics department only as part of an approved minor. Prerequisite: consent of instructor.

512-1 to 21 Topics in Mathematics for Teachers of Elementary, Middle School and Junior High Mathematics. (a) Abstract Algebra. (b) Geometry. (c) Probability and Statistics. (d) Sets, Logic and Number Systems. (e) Applications of Mathematics. (f) Algebra. (g) History of Mathematics. This course is counted by the Mathematics department only as part of an approved minor.

513-1 to 27 Topics in Mathematics for Teachers of Secondary Mathematics. (a) Abstract Algebra. (b) Geometry. (c) Probability and Statistics. (d) Sets, Logic and Number Systems. (e) Applications of Mathematics. (f) Analysis. (g) Discrete Mathematics. (h) Topology. (i) Computer Simulation. This course is counted by the Mathematics department only as part of an approved minor.

516-8 (4,4) Statistical Analysis in the Social Sciences. (a) Descriptive statistics; graphic display of data; concepts of probability; statistical estimation, and hypothesis testing. Applications to social science data. (b) Matrix algebra; general linear model; multivariate statistics, ordinal and

nominal measures of associations and causal modeling. Applications to social science data. This course does not give credit toward a mathematics major. Prerequisite: one year of high school algebra or equivalent.

519-3 Algebraic Structures I. Groups, subgroups, normal subgroups and homomorphism theorems, permutation groups, finite direct products, finite abelian groups, p-groups and Sylow's theorems, normal and subnormal series, Jordan-Hölder theorem. Rings and subrings, divisibility theory in integral domains, polynomial rings. Prerequisite: 419 or consent of department.

520-3 Algebraic Structures II. Algebraic field extensions; splitting fields, algebraic closure, separable and inseparable extensions; finite fields; norms and traces, the fundamental theorem of Galois theory. Free modules, torsion modules, tensor products of modules, finitely generated modules over principal ideal domains, application of abelian groups. Prerequisite: 519.

522-1 to 12 Advanced Topics in Algebra and Number Theory. Selected topics in modern algebra and number theory chosen from such areas as: group theory, commutative algebra, non-commutative algebra, field theory, representation theory, analytical number theory, algebraic number theory, additive number theory. Diophantine approximations, Dirichlet series and automorphic form. Prerequisite: consent of instructor.

525-3 Number Theory. Introduction to modern analytic and algebraic techniques used in the study of quadratic forms, the distribution of prime numbers, diophantine approximations and other topics of classical number theory. Prerequisite: 425.

530-3 General Topology. Topological spaces, continuous functions, product topology, convergence, separation and countability, compactness, connectedness, local properties, metrizable, compact-open topology. Prerequisite: 430, 452.

531-3 Algebraic Topology. Simplicial complexes. Simplicial approximation. Chain complexes. Simplicial homology. Singular homology. Applications to spheres and Euclidean spaces. Universal coefficient theorem. Cohomology. Prerequisite: 419, 430 or 530.

532-1 to 12 Advanced Topics in Topology and Geometry. Selected advanced topics in topology and geometry chosen from such areas as: metrization, topological groups, uniform spaces, homotopy theory, covering spaces, fixed point theory, Poincaré duality, differential topology, categorical topology, ordered topological spaces, complex manifolds, fibre bundles, vector bundles, sheaf theory, differential geometry, Morse theory, relativity. Prerequisite: consent of instructor.

536-3 Differential Geometry. Basic manifold theory, linear connections, Riemannian geometry, DeRham cohomology, applications. Prerequisite: 421, 430 or 435.

549-3 Combinatorial Theory. Graph theory: review of basic concepts, algebraic graph theory, trees, planarity, Ramsey's theorem, factorizations. Block designs: balanced incomplete block designs, finite geometries, triple systems, arrays. Introduction to algebraic coding theory. Introduction to modern cryptography. Prerequisite: 449 or consent of department.

551-3 Functional Analysis. Topological vector spaces; weak topologies; bounded and unbounded operators in Hilbert space; spectral theory; distributions; Sobolev spaces; normed rings; normed algebras. Prerequisite: 502.

553-1 to 12 Advanced Topics in Analysis and Functional Analysis. Advanced topics in analysis and functional analysis from such areas as: harmonic analysis, approximation theory, integration theory, advanced complex variables, topological vector spaces, operator theory, Banach algebras, distribution theory. Prerequisite: consent of instructor.

555-3 Complex Variables. Extended complex plane; Cauchy-Riemann equations: conformality; analytic continuation; power series; elementary functions; Cauchy integral theorem and consequences; Cauchy integral formula; maximum modulus principle; Liouville's theorems; Laurent expansion; residue theorem and evaluation of real integrals; principle of argument; Rouché's theorem. Prerequisite: 452.

559-1 to 12 Advanced Topics in Combinatorics. Selected advanced topics in combinatorics chosen from such areas as: graph theory; combinatorial designs; enumeration; random graphs; finite geometry; coding theory; cryptography; combinatorial algorithms. Prerequisite: consent of instructor.

560-3 Calculus of Variations. The basic problems of calculus of variations. The classical necessary conditions and their application. Canonical form of the Euler-Lagrange equations and Hamilton's principle. Fields and sufficient condition. Pontryagin's necessary condition and its application to control theory and to the classical problems of the calculus of variations. Prerequisite: 452.

566-3 Introduction to Continuum Mechanics. A rigorous development of continuum mechanics including: elements of tensor analysis; kinematics; balance of mass, linear momentum, and angular momentum; the concept of stress; constitutive equations for fluid and solid bodies; the principle of frame indifference. Prerequisite: 450 or 452 and one of 406, 421, 435.

569-1 to 12 Advanced Topics in Applied Mathematics. Selected advanced topics in applied mathematics chosen from such areas as: continuum mechanics; electromagnetic theory; control theory; mathematical physics. Prerequisite: consent of instructor.

570-1 to 12 Advanced Topics in Optimization. Selected advanced topics in optimization and operations research chosen from such areas as: calculus of variations, optimal control theory, nonlinear programming, convex analysis, nonsmooth analysis, new flows, advanced computer simulation, large scale linear programming. Prerequisite: consent of instructor.

572-1 to 12 Advanced Topics in Numerical Analysis. (Same as Computer Science 564.) Selected advanced topics in numerical analysis chosen from such areas as: approximation theory, numerical solution of initial value problems; numerical solution of boundary value problems, numerical linear algebra, numerical methods of optimization, functional analytic methods. Prerequisite: consent of instructor.

574-3 Approximation Theory. Existence, uniqueness, and characterization of best approximations in normed linear spaces; projection methods for good approximation: the Weierstrass, Muntz-Szasz, and Stone-Weierstrass theorems; degree of approximation and the Jackson theorems; construction of optimal min-max and least squares approximation using rational functions, splines, exponential sums. Prerequisite: 452, 475a and 406 or 421.

575-3 Matrix Computations. An introduction to modern numerical linear algebra including: vector and matrix norms; Householder, Givens, and Gauss transforms; factorization methods for solving systems of linear equations with roundoff error analysis; QR and SVD methods for solving linear least squares problems; the QR algorithm for computing the eigenvalues of a matrix. Prerequisite: 475a and one of 406, 421.

580-3 Statistical Theory. An introduction to mathematical statistics. Estimation theory including such topics as the Cramer-Rao and Chapman-Robbins inequalities, and the Rao-Blackwell theorem. Testing hypotheses with emphasis on the monotone likelihood ratio and the exponential family. A short introduction to Bayes and other decision procedures. Prerequisite: 480 or 483.

581-3 Probability. General probability spaces, review of measure and integration; product spaces, product measures, Fubini's theorem. Probability and random variables: induced measures, distribution functions, expectations, types of convergence, independence, characteristic functions. Sums of independent random variables: tail events and tail functions; Borel Cantelli lemma, zero-one law; Kolmogorov's inequality, convergence of series, the Strong Law of Large Numbers. Prerequisite: a concurrent course in real variables (501).

582-1 to 6 Advanced Topics in Probability. Selected advanced topics in probability chosen from such areas as: martingales, Markov processes, Brownian motion, infinitely divisible laws. Prerequisite: consent of instructor.

583-1 to 12 Advanced Topics in Statistics. Selected advanced topics in statistics chosen from such areas as: advanced linear models, advanced experimental design, multivariate statistical analysis, decision theory, advanced nonparametric theory. Prerequisite: consent of instructor.

585-1 to 2 Statistical Consulting. Consulting with university researchers under the supervision of a member of the statistics faculty. A write up of each consultation will be required. Prerequisite: 484 or 485 and consent of instructor.

590-1 to 6 Contemporary Mathematics Research. Lectures on various mathematical topics of current research interest by members of the department and by distinguished visitors. Prerequisite: consent of the graduate adviser.

592-1 to 6 Advanced Topics in Mathematics for Teachers. (a) Algebra. (b) Geometry. (c) Analysis. (d) Probability and Statistics. (e) Discrete Mathematics. Credit not applicable to graduate program in mathematics.

595-1 to 12 per topic Special Project. An individual project, including a written report. (a) Algebra. (b) Geometry. (c) Analysis. (d) Probability and Statistics. (e) Mathematics Education. (f) Logic and Foundations. (g) Topology. (h) Applied

mathematics. (i) Differential Equations. (j) Number Theory (k) Combinatorics and Graph Theory. Graded *S/U* only. Prerequisite: consent of instructor.

599-1 to 6 Thesis. Minimum of three hours to be counted toward the Master of Arts degree.

600-1 to 30 (1 to 16 per semester) Dissertation. Minimum of 24 hours to be earned for the Doctor of Philosophy degree.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Mechanical Engineering

E-mail: judi@engr.siu.edu

COLLEGE OF ENGINEERING

Agrawal, Om, Associate Professor, Ph.D., University of Illinois-Chicago, 1984; 1985. Computer-aided analysis and design of rigid/flexible multi-body systems, numerical analysis, finite element methods, and continuum mechanics, CAD/Simulation of mechanical systems.

Blackburn, James W., Associate Professor, Ph.D., University of Tennessee, Knoxville, 1988; 1995. Biokinetics, biotechnology, chemical and bioprocesses reduction and control of organic wastes/by-products; pollution prevention through tuning complex chemical processes and bioprocesses, bioprocess treatment of waste and wastewater, scale-up and application of bioremediation processes, reduction or control of organic air emissions.

Byrne, Christopher E., Assistant Professor, Ph.D., Johns Hopkins University, 1996; 1997. Friction materials, carbon composites, nondestructive evaluation, composite processing.

Chen, Juh W., Professor and *Dean*, Ph.D., University of Illinois, 1959; 1965. Process analysis and kinetics, sonocatalysis, coal conversion processes, supercritical extraction.

Chu, Tsuchin P., Associate Professor, Ph.D., University of South Carolina, 1982; 1990. CAD/CAM, imaging systems, mechanical vibrations, computer graphics, machine vision, optical methods in experimental mechanics and manufacturing, image processing.

Don, Jarlen, Associate Professor, Ph.D., Ohio State University, 1982; 1985. Materials creep and creep fatigue, surface phenomena, carbon-carbon composites, composite materials, friction materials.

Farhang, Kambiz, Associate Professor, Ph.D., Purdue University, 1989; 1990. CAD/CAM, controls, vibrations, kinematics, dynamics, control and stability of flexible and rigid-body mechanical, electromechanical, mechanical-drive systems; manufacturing processes and process control.

Helmer, Wayne A., Professor, Ph.D., Purdue University, 1974; 1974. Rapid prototyping, refrigeration, heat transfer, fluid bed combustion, energy conservation, solar energy, direct contact heat transfer, ethics.

Hesketh, Howard E., Professor, *Emeritus*, Ph.D., Pennsylvania State University, 1968; 1968.

Hippo, Edwin J., Professor, Ph.D., Pennsylvania State University, 1977; 1984. Liquefaction, coal

conversion, chemical and physical cleaning of coal, coal structure, carbon materials, STM.

Jefferson, Thomas B., Professor, *Emeritus*, Ph.D., Purdue University, 1955; 1969.

Kent, Albert C., Professor, *Emeritus*, Ph.D., Kansas State University, 1968; 1966.

Khonsari, Michael M., Professor and *Chair*, Ph.D., University of Texas at Austin, 1983; 1996. Tribology (lubrication, friction and wear), heat transfer, numerical analysis, machinery performance analysis.

Koc, Rasit, Associate Professor, Ph.D., University of Missouri-Rolla, 1989; 1994. Ceramic materials, powder processing, nonstoichiometry of oxides; sintering of oxide and non-oxide ceramics, methods preparing high purity oxides from organometallics, perovskites for use as high temperature electrodes, synthesizing submicron carbide, nitride and boride powders.

Kulkarni, Manohar, Assistant Professor, Ph.D., University of Missouri-Columbia, 1986; 1993. Energy management, thermal analysis of materials, heat transfer, thermal modeling, transient thermography, refrigeration.

Lalvani, Shashi B., Professor, Ph.D., University of Connecticut, 1982; 1982. Electrosynthesis, corrosion and electrochemical engineering; coal cleaning and conversion; and environmental science.

Muchmore, Charles B., Professor, Ph.D., Southern Illinois University at Carbondale, 1969; 1966. Biological, physical, and chemical aspects of water quality control, coal conversion and cleaning, mass transfer operations, alcohol production, water pollution control.

O'Brien, William S., Associate Professor, *Emeritus*, Ph.D., West Virginia University, 1972; 1973.

Orthwein, William C., Professor, *Emeritus*, Ph.D., University of Michigan, 1958; 1965.

Rajan, Suryanarayaniah, Professor, Ph.D., University of Illinois, 1970; 1977. Internal combustion engines, energy utilization, fluidized bed combustion, pulse combustion, engine fuels, combustion and pollution control.

Swisher, James H., *Emeritus*, Professor, Ph.D., Carnegie-Mellon, 1963; 1983.

Tempelmeyer, Kenneth E., Professor, *Emeritus*, Ph.D., University of Tennessee, 1969; 1979.

Wittmer, Dale E., Professor, Ph.D., University of Illinois, 1980; 1986. Continuous sintering and advanced materials processing, high temperature resistant materials and testing, ceramics whisker

synthesis, ceramic composites, carbon fiber production and composites.

Wright, Maurice, Professor, Ph.D., University of Wales, United Kingdom, 1962; 1984. Fiber rein-

forced composites, fracture mechanics, carbon-carbon composites, friction materials, brake systems.

Master of Science in Mechanical Engineering

Graduate work leading to the Master of Science degree in mechanical engineering is offered by the College of Engineering. The program is designed to provide advanced study in air pollution control, mass and heat transfer, coal conversion, electrochemical processes, thermal science, thermal systems design, solar systems design, chemical and biochemical processes, mechanical systems, computer-aided design, composite materials and ceramics and tribology.

Admission

Students seeking admission to the graduate program in mechanical engineering must meet the admission standards set by the Graduate School and have a bachelor's degree in engineering or its equivalent. A student whose undergraduate training is deficient may be required to take coursework without graduate credit.

A non-refundable application fee of \$20.00 must be submitted with the application. Attach your check or money order, payable to Southern Illinois University, to the top of the application form. Please do not send cash. Only checks or money orders payable to United States banks will be accepted. The application form can be obtained from the Department.

Requirements

Each student majoring in mechanical engineering will develop a program of study with a graduate adviser and establish a graduate committee of at least three members at the earliest possible date. A student may with the approval of a graduate faculty committee and the department chair also take courses in other branches of engineering, or in areas of science and business, such as physics, geology, chemistry, mathematics, life science, administrative sciences, or computer science. A thesis committee of at least three members will approve the thesis and the comprehensive oral exam.

For a student who wishes to complete the requirements of the master's degree with a thesis, a minimum of thirty semester hours of acceptable graduate credit is required. Of this total, eighteen semester hours must be earned in the Department of Mechanical Engineering and Energy Processes. Each candidate is also required to pass a comprehensive oral examination covering all of the student's graduate work including thesis.

If a student prefers the non-thesis option, a minimum of thirty-six semester hours of acceptable graduate credit is required. The student is expected to take at least twenty-one semester hours within the Department of Mechanical Engineering and Energy Processes including no more than three semester hours of the appropriate 592 course to be devoted to the preparation of a research paper. In addition, each candidate is required to pass a written comprehensive examination. An oral presentation of the paper may be required.

Each non-thesis student will select a minimum of three engineering graduate faculty members to serve as a graduate committee, subject to the approval of the chair of the department. The committee must include at least one member from one of the other engineering departments and will:

1. approve the student's program of study,
2. approve the student's research paper topic,
3. approve the completed research paper, and
4. administer and approve the written comprehensive examination.

Teaching or research assistantships and fellowships are available for qualified applicants. Additional information about the program, courses, assistantships, and fellowships may be obtained from the College of Engineering or the Department of Mechanical Engineering and Energy Processes.

Courses (ME)

Graduate work in the Department of Mechanical Engineering and Energy Processes is offered toward a concentration for the Master of Science degree in engineering. Safety glasses are required for some of the courses in this department. Four-hundred level courses in this department may be taken for graduate credit unless otherwise indicated in the course description.

400-3 Power and Refrigeration Cycles. Use of engineering thermodynamics in analysis of power and refrigeration cycles. Detailed treatment of various gas and vapor power cycles including combined gas and steam cycles. Thermodynamics of combustion. Gas and vapor refrigeration cycles. First and Second Law analysis and turbo-machinery. Prerequisite: Engineering 300.

401-1 Thermal Measurements Laboratory. Study of basic measurements used in the thermal sciences. Calibration techniques for temperature and pressure sensors. Thermal measurements under transient and steady-state conditions. Applications include conduction, convection and radiation experiments. Uncertainty analysis. The handling and reduction of data. Prerequisite: 302.

402-3 Heat Exchange Equipment Design. Engineering design of heat exchange equipment such as boilers, evaporators, cooling towers, furnaces and systems involving combinations of conduction, convection and radiation mechanisms. Emphasis is placed on application of basic principles of heat transfer and fluid mechanics to the design of heat exchange equipment. Student are encouraged to work open-ended problems with multiple possible solutions. Prerequisite: 302.

403-1 Mechanical Engineering Measurements Laboratory. Laboratory to familiarize students with the use of instruments to measure time, distance, velocity, acceleration, strain, fluid flow and turbulence. Instruments include micrometers, laser distance meters, stroboscopes, oscilloscopes, incremental rotary encoder, LVDT, load cells, accelerometers, analog/digital converters, pressure transducers and related equipment. Prerequisite: Engineering 311.

404-4 Optimization of Process Systems. Simulation and optimization of process systems based upon engineering science and economic fundamentals. Analysis and correlation of experimental engineering data and use of correlated data in simulation, design and decision making. Design of systems using economics and continuous and discrete optimization methods encountered in engineering practice. Use of the computer is required. Prerequisite: 361 or Engineering 361; Mathematics 305 and senior standing in engineering.

405-3 Internal Combustion Engines and Gas Turbines. Operation and performance characteristics of Otto, Diesel, Wankel engines and gas turbines. Methods of engine testing, types of fuels and their characteristics, fuel metering systems, engine combustion analysis as related to engine performance, fuel characteristics and air pollu-

tion, exhaust gas analysis and air pollution control. Prerequisite: Engineering 300.

406-3 Thermal Systems Design. Applications of the principles of engineering analysis to the design of thermal systems. Consideration of such systems as refrigeration, air conditioning, spacecraft thermal control and cogeneration. Numerical analysis and solution of an open-ended design problem. Prerequisite: 302, Engineering 351.

408-3 Energy Conversion Systems. Principles of advanced energy conversion systems; nuclear power plants, combined cycles, magnetohydrodynamics, cogeneration (electricity and process steam) and heat pumps. Constraints on design and use of energy conversion systems; energy resources, environmental effects and economics. Prerequisite: 301 or 400.

410-3 Applied Chemical Thermodynamics and Kinetics. Designed for students interested in chemical and environmental processes and materials science. Topics covered include applications of the Second and Third Laws of Thermodynamics, solution theory, phase equilibria, sources and uses of thermodynamic data, classical reaction rate theory, kinetic mechanisms and the determination of rate-determining steps in chemical reactions. Prerequisite: Chemistry 200, 201, Engineering 300 or consent of instructor.

414-3 Noise and Vibration Control. Principles of engineering acoustics and vibration and their application to noise and vibration control techniques. Laboratory experience demonstrates techniques for control and reduction of vibration and noise. Prerequisite: 436 and consent of instructor.

416-3 Air Pollution Control. Engineering control theory, procedure, equipment, and economics related to control of particulate, gaseous, and toxic air emissions. The environmental impacts due both to controlling and not controlling emissions are considered. Understanding of the basics is evaluated as students design control equipment, specify and troubleshoot control systems and predict the impacts for each major type of control system. Prerequisite: senior standing.

418-1 Air Quality Laboratory. This laboratory consists of design, construction, and use of systems to measure and analyze ambient atmospheric pollution. Safety glasses required. Prerequisite: concurrent enrollment in 416.

419-3 Hazardous Waste Incineration. Incineration techniques, procedures and systems are presented for solid waste disposal and for remedial site clean-up activities. This includes regulations, waste handling, emission controls and

residue disposal. Thermodynamics, chemistry and equipment are discussed, including heat recovery. Prerequisite: 416 or consent of instructor.

422-3 Applied Fluid Mechanics for Mechanical Engineers. Applications of fluid mechanics in internal and external flows. The mathematical basis for inviscid and viscous flows calculations is developed with application to pipe and duct flows; external flow about bodies; drag determination; turbomachinery; and reaction propulsion systems. Semester design project of a fluid mechanical system. Prerequisite: Engineering 300, 313 and Mathematics 305.

423-3 Compressible Flows. Foundation of high speed fluid mechanics and thermodynamics. One-dimensional flow, isentropic flow, shock waves and nozzle and diffuser flows. Flow in ducts with friction and heat transfer. Prandtl-Meyer flow. Compressibility effects in reaction propulsion systems. Semester design project. Prerequisite: Engineering 300, 313.

430-3 Kinematic Synthesis. Kinematic synthesis of linkages, single loop and multiple loop mechanisms and geared linkages. Vector synthesis of spatial mechanism and its computer simulation. Prerequisite: 309.

435-3 Design of Mass Transfer Processes. Design principles of mass transfer processes. The rate mechanism of molecular, convective and interphase mass diffusion. The design of selected industrial mass transport process operations such as absorption, humidification, water cooling, drying and distillation. Prerequisite: 302.

436-3 Mechanical Engineering Controls. Analysis and design of controls for mechanical engineering systems: mechanical, electrical, thermal, fluid and combinations of these. Prerequisite: 261 or Engineering 260b, 300, 335, 351.

437-1 Mechanical Engineering Controls Lab. Application of control principles to mechanical engineering systems. Speed and position control using computer-based instrumentation. Pneumatic control. Temperature and flow sensing and control. Automatic control of servo systems. Process control and PLC applications. Prerequisite: 436 and senior standing.

440-3 Heating, Ventilating and Air Conditioning Systems Design. Principles of human thermal comfort. Heating and cooling load analysis. HVAC system design. Air conditioning processes. Prerequisite: 302.

442-3 Passive Solar Design. Design of solar heating systems for residence with emphasis on passive systems. Heat flow and heat loss. Estimating heat loss and heating requirements of buildings. Energy conserving building design. Predicting performance and economics of a system. Prerequisite: 302.

446-3 Energy Management. Fundamentals and various levels of analysis for energy management of commercial buildings and industrial processes and buildings. Use of energy management systems and economic evaluations are required in course projects. Prerequisite: 302.

448A-2 Refrigeration Equipment Design. The role of refrigeration equipment and systems in producing conditioned air to a controlled environment. Compressor fundamentals and design. Cooling equipment: heat pumps, absorption units, vapor compression chillers. Heating equipment:

boilers furnaces, heat pumps. Alternate refrigerant. Simulation of refrigeration components and systems. Prerequisite: 302.

448B-3 Refrigeration Equipment Design and Analysis. The role of refrigeration equipment in producing conditioned air to a controlled environment. Compressor fundamentals and design. Cooling equipment: heat pumps, absorption units, vapor compressor chillers. Heat equipment: boilers furnaces, heat pumps. Alternate refrigerants. Simulation of refrigeration components and systems. Prerequisite: 302.

462-3 Physical Metallurgy. Structure of metals. Dislocation theory and plasticity. Solid state diffusion. Thermodynamics of solutions and phase diagrams. Phase transformations. Fracture mechanics. Creep and fatigue. Prerequisite: Engineering 312.

463-3 Introduction to Ceramics. Structure and physical properties, mechanical properties, processing and design of ceramics. Prerequisite: Engineering 312 or equivalent.

470-3 Mechanical System Vibrations. Linear Vibration analysis of mechanical systems. Design of mechanical systems to include effects of vibration. Prerequisite: Engineering 260b and 351, Mathematics 305.

472-3 Materials Selection for Design. Interaction of material design process with material selection criteria. Comparison of materials properties, processes and fabrication. Project work includes design models, material selection rationale, oral presentation of projects, construction of mock-up models and theoretical design problems in the area of the student's specialization. Prerequisite: Engineering 222a, 312.

475-3 Machine Design I. Design of machines using bearings, belts, clutches, chains and brakes. Develops application of the theory of fatigue, power transmission and lubrication to the analysis and design of machine elements. Prerequisite: Engineering 311, 351.

476-3 Machine Design II. Design of machines using gears, springs, screws and fasteners, and adhesives. Matching power sources to driven machines. Prerequisite: 475.

477-3 Fundamentals of Computer-Aided Design and Manufacturing. Introduction to the concepts of computer-aided design and manufacturing (CAD/CAM). Subjects include computer graphics, geometric modeling, engineering analysis with FEM, design optimization, computer numerical controls, project planning and computer integrated manufacturing. (CIM). Students are required to use computer packages for projects. Prerequisite: 475 or consent of instructor.

495A-4 Mechanical Engineering Design. Project development skills, feasibility and cost-benefit analysis, ethical issues, professionalism, preliminary design, identification of tasks, assignment of task to project team members, coordination of interdisciplinary team effort, development of final proposal, oral presentation of final proposal. Prerequisite: Senior standing in mechanical engineering (2nd to last semester).

500-3 Advanced Engineering Thermodynamics. Principles of kinetic theory and classical statistical mechanics applied to thermodynamic systems. Statistical interpretation of the equilibrium state and thermodynamic properties of engineer-

ing systems. Introduction to irreversible thermodynamics with engineering examples. Prerequisite: Engineering 300.

501-3 Transport Phenomena. Mechanism of heat, mass and momentum transport on both molecular and continuum basis. Estimation of transport properties. Generalized transport equations in one- or three-dimensional systems. Analogy of mass, heat and momentum transfer. Macroscopic balances, simultaneous mass and heat transfer. Prerequisite: 302.

502-3 Conduction Heat Transfer. Engineering considerations involving the construction of mathematical and numerical models of conduction heat transfer and the interpretation of results of analyses. Prerequisite: 302.

503-3 Convective Heat Transfer. Laminar and turbulent forced convection heat transfer over surfaces and inside tubes, including non-circular cross sections. Developing flows. Laminar free convection. Emphasis throughout is on the analytical approach. Prerequisite: 302.

504-3 X-Ray Diffraction and Electron Microscopy. (Same as Physics 571.) X-ray physics. Geometry of crystals. Scattering of X-ray by atoms, crystals and noncrystalline matter. Kinematical theory of diffraction. Powder method, Laue method. Electron optics. Formation and analysis of diffraction patterns. Imaging techniques. Image contrast theories. Analysis of crystal defects. Advanced analytical electron microscopes.

507-3 Combustion Phenomena. Basic combustion phenomena-chemical rate processes-flame temperature, burning velocity, ignition energy, quenching distance and inflammability limits-laminar and turbulent flame propagation-aerodynamics of flame-gaseous detonations-two phase combustion phenomena-fluidized bed combustion. Prerequisite: Engineering 300.

509-3 Thermal Radiation Heat Transfer. Review of radiation fundamentals. Prediction of radiative properties using classical electromagnetic theory. Properties of real materials. Governing equations between blackbody and graybody surfaces. Exchange of radiation between nondiffuse, nongray surfaces. Radiation in the presence of other energy transfer modes. Approximate and computer solution techniques. Prerequisite: 302.

510-3 Electrochemical Engineering. Principles underlying electrochemical processes. Transformation of chemical and electrical energy. Application of fundamental electrochemical laws to industrial processes, energy conversion, corrosion and reactor design. Prerequisite: consent of instructor.

513-3 Theory of Plasticity. (Same as Civil Engineering 553). Yield criteria kinematic and isotropic strain hardening; flow rules for plastic strain, elastic-plastic bending and torsion; slipline field theory; plane strain problems; residual stresses and limit analysis. Prerequisite: Engineering 311 and Mathematics 305, or consent of instructor.

520-3 Coal Conversion and Combustion Processes. The major present day and proposed processes converting coal to other energy forms (gaseous and liquid fuels, coke, steam, electricity, etc.). Coal properties and chemical reaction relationships affecting conversion process paths. De-

sign of coal gasification, liquefaction, combustion and carbonization reactor systems. Environmental assessment and cost considerations related to coal conversion. Prerequisite: graduate standing or consent of instructor.

525-3 Small Particle Phenomena. Small particle formation, behavior, properties, emission, collection, analysis and sampling. Includes atomization, combustion, transport of suspension and sols, filtration, light scattering and movement patterns of mono and polydisperse particles and use of a device to measure size, size distribution and one other physical property of an aerosol. Prerequisite: graduate standing.

531-4 Reaction Engineering and Rate Processes. Chemical kinetics of homogeneous and heterogeneous reactions, kinetic theories, mechanism and mathematical modeling. Reactor design. Design of multiple reactions; temperature and pressure effects. Nonisothermal and nonadiabatic processes. Non-ideal reactors. Prerequisite: 435.

532-3 Separation Processes and Equilibrium Operations. Phase equilibrium, multistage calculations, graphical methods, unsteady-state stagewise operations. Multicomponent systems. Rate separation processes. Applications in processing industry. Prerequisite: 435.

535-3 Computer Aided Analysis of Mechanical Systems I. Computer aided kinematic and dynamic analysis of planar mechanism: topics will include formulation of kinematic and dynamic equations of motion for planar systems. Automatic generations of kinematic constraint such as revolute joint, translation joint, etc. Numerical techniques for solution of nonlinear, differential, and algebraic equations, application of these techniques to planar mechanism and robotic systems. Prerequisite: 310.

536-3 Computer Aided Analysis of Mechanical Systems II. Computer aided kinetic and dynamic analysis of spatial mechanical systems. Topics will include: formulation of kinematic and dynamic equations of motion of spatial systems using Euler angles and quaternions, automatic generation of kinematic constraints such as spherical joints, universal joints, etc., numerical methods for spatial mechanisms, modeling of spatial mechanisms, general purpose software development and its application. Prerequisite: 535.

537-3 Nonlinear Vibrations. Dynamic response and stability of nonlinear systems. Examples and sources of nonlinearity. Various techniques for studying dynamic behavior or nonlinear systems. Prerequisite: 470 or consent of instructor.

538-3 Applied Optimal Design and Control of Dynamic Systems. Unconstrained and Constrained Mechanical-System Optimization Problems; Variational Calculus; Continuous Optimal Control; The Maximum Principle and Hamilton-Jacobi Theory; Dynamic-Systems Optimum-Control Examples; Design Sensitivity Analysis; Numerical Methods for Dynamic-System Design and Control Problems; Application of the above techniques to Large Scale Dynamic Systems. Prerequisite: 470 or equivalent.

540-3 Introduction to Continuum Mechanics. Tensor analysis applied to continuum mechanics: stress and strain and their invariance, equations of compatibility, constitutive equations - including

linear stress-strain relations. Prerequisite: Mathematics 305, Engineering 311, graduate standing in engineering.

555-3 Materials Processing. Course to cover a multitude of topics in the processing of metals, ceramics and, to a lesser extent, polymers. Example are: materials beneficiation, extraction, solidification, sintering and thin film deposition; topics for which the scientific basis for the processes is well established. Prerequisite: 410 and Engineering 312 or consent of instructor.

562-3 Environmental Degradation of Materials. Course designed for majors in engineering and the physical sciences. Topics covered include general corrosion, oxidation, hydrogen embrittlement, stress corrosion cracking and fine particle erosion. Approach will draw on principles of chemistry and materials science. Prerequisite: Chemistry 222 and one of the following: 460, 462 and Engineering 312, or consent of instructor.

565-3 Finite Element Analysis. (Same as Civil Engineering 551). Finite element analysis as a stress analysis or structural analysis tool. Derivation of element stiffness matrices by various means. Application to trusses, plane stress/strain and 3-D problems. Dynamic and material nonlinearity problems. Prerequisite: Engineering 311 and Mathematics 305.

566-3 Advanced Mechanics of Materials. (Same as Civil Engineering 557) Advanced topics in mechanics of materials including: elasticity equations; torsion of non-circular sections; generalized bending including curved beams and elastic foundations; shear centers; failure criteria including yielding, fracture and fatigue; axisymmetric problems including both thick and thin walled bodies; contact stresses; and stress concentrations. Prerequisite: Engineering 222 and 311.

567-3 Tribology. Analysis and design of tribological components particularly bearings. A number of modern developments in the field and advanced topics will be presented. Prerequisite: graduate standing or consent of instructor.

580-1 to 2 Seminar. Presentations of topics in the broad areas of mechanical engineering such as thermal, mechanics, materials and acoustics.

Prerequisite: enrollment in program leading to Master of Science of Mechanical Engineering.

582-1 Experimental Research Tools. Topics important to engineering graduate students engaging in research. These topics include: laboratory safety, statistical data analysis, experimental design, library research and chemical hygiene. Prerequisite: graduate enrollment in Engineering.

583-1 Technical Research Reporting. Analysis of technical and scientific writing: journal article, thesis, research paper. Guidelines and principles for writing engineering research literature and proposals. Term project involving thesis or research paper proposal to meet department requirements. Prerequisite: 582, consent of instructor.

592-1 to 4 Special Investigations in Engineering. Advanced topics in thermal and environmental engineering. Topics are selected by mutual agreement of the student and instructor. Four hours maximum course credit. Prerequisite: consent of instructor and department chair.

593-3 Special Topics in Mechanical Engineering. Studies of special topics in various areas in mechanical engineering. Such topics as coal refining, energy conversion, thermal systems, mechanics, robotics, CAD/CAM, TOM and engineering materials. Prerequisite: consent of instructor.

595-3 Research Paper. Research paper on a topic approved by a faculty advisor and committee in Mechanical Engineering. This course is restricted to graduate students in the non-thesis option. Prerequisite: consent of instructor or department and graduate standing in Mechanical Engineering.

599-1 to 6 Thesis. Six hours maximum course credit.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Mining Engineering

E-mail: wreese@siu.edu

COLLEGE OF ENGINEERING

Chugh, Yoginder P., Professor and *Chair*, Ph.D., Pennsylvania State University, 1971; 1977. Rock mechanics and strata control, production engineering in coal mines, mine subsidence.

Honaker, Ricky Q., Associate Professor, Ph.D., Virginia Polytechnic Institute and State University, 1992; 1991. Coal and mineral processing, applied surface chemistry in mining applications, automation and control.

Paul, Bradley, Associate Professor, Ph.D., University of Utah, 1989; 1990. Underground mining

systems and solution mining, minerals processing, hard rock and industrial minerals, geostatistics.

Sevim, Hasan, Professor, D.E.S., Columbia University, 1984; 1984. Mineral economics and operations research, materials handling, experimental design.

Sinha, Atmesh K., Professor, Ph.D., University of Sheffield, England, 1963; 1975. Coal processing, mine electrical engineering, mine health and safety.

Master of Science in Mining Engineering

Graduate work leading to the Master of Science degree in mining engineering is offered by the College of Engineering. The program is designed to provide ad-

vanced study in areas such as rock mechanics and ground control, finite element analysis of mining structures, experimental rock mechanics, mine subsidence, coal processing, computer simulation of coal processing plants, surface and underground mining systems performance optimization, evaluation of innovative mining systems, mineral economics and operations research, surface mine reclamation, in-situ mining, and waste disposal.

Admission

Students seeking admission to the graduate program in mining engineering must meet the admission standards set by the Graduate School and have a bachelor's degree in engineering or its equivalent. A student whose undergraduate training is deficient may be required to take coursework without graduate credit.

A non-refundable application fee of \$20.00 must be submitted with the application. Attach your check or money order, payable to Southern Illinois University, to the top of the application form. Do not send cash. Only checks or money orders payable to United States banks will be accepted.

Requirements

A graduate student in mining engineering is required to develop a program of study with a graduate adviser and a graduate committee. Each student majoring in mining engineering may, with the approval of the graduate committee, also take courses in other branches of engineering or in areas of science and business, such as physics, geology, chemistry, mathematics, life science, administrative sciences, or computer science.

For a student who wishes to complete the requirements of the master's degree with a thesis, a minimum of thirty semester hours of acceptable graduate credit is required. Of this total, eighteen semester hours must be earned in the mining engineering department. Each candidate is also required to pass a comprehensive oral examination covering all of the student's graduate work including the thesis.

If a student prefers the non-thesis option, a minimum of 36 semester hours of acceptable graduate credit is required. The student is expected to take at least 21 semester hours within mining engineering including no more than 3 semester hours of the appropriate 592 course to be devoted to the preparation of a research paper. In addition, each candidate is required to pass a written comprehensive examination and an oral examination on the research paper.

Each student will select a minimum of three engineering graduate faculty members to serve as a graduate committee, subject to the approval of the chair of the mining engineering department. The committee must consist of at least one member from one of the other engineering departments and will:

1. approve the student's program of study,
2. approve the student's research topic,
3. approve the completed research paper or thesis, and
4. administer and approve the written comprehensive or oral examination.

Teaching or research assistantships and fellowships are available for qualified applicants. Additional information about the program, courses, assistantships, and fellowships may be obtained from the College of Engineering or the Department of Mining and Mineral Resources Engineering.

Courses (MNGE)

401-1 Mining Environmental Impacts and Permits. Socio-economic impacts of mining industry. Analyzing the markets for coal and its products. Mining operations and related environmental impacts. Mining permits. Prerequisite: 400 or consent of instructor.

410-3 Underground Mining Systems Design. Study of coal property evaluation. Underground mining methods. Design of mine production and its ancillary systems and subsystems. Prerequisite: 400, Civil Engineering 263 or 320, Mathematics 251, Engineering 361, Geology 390 or con-

current enrollment. Consent of instructor for graduate students and non-majors.

411-2 Mine Machinery. Analysis and design of underground and surface mining machinery. Equipment and parts selection. System development. Preventive maintenance. Prerequisite: 410.

413-3 Mine and Industrial Power Systems. Electric circuits, transformers, motors and their industrial applications. Electrical power distribution; systems design and components selections. Pneumatic and hydraulic power principles. Prerequisite: Physics 205 and Mathematics 250.

415-4 Surface Mining, Quarrying and the Environment. Surface mining and quarrying methods for coal, aggregate and hardrock minerals. Surface mining and quarrying economics. Product specifications and transportation. Equipment sizing and selection. Drainage control. Blasting design for control of fragmentation, air blast and vibration. Prerequisite: 400, Civil Engineering 263 or Mining Engineering 320, Mathematics 251, Engineering 361. Consent of instructor for graduate students and non-majors.

417-3 Applied Probability and Statistics for Engineers. Probability and statistics concepts, analysis of engineering experimental data. Fitting experimental data to distribution functions. Regression analysis. Quality control in production systems. Reliability in engineering processes. Stochastic simulation of engineering systems. Prerequisite: Mathematics 251 or consent of instructor.

418-3 Mining of Ore Deposits. Analysis, planning and design of surface hardrock mines and underground mining system. Analysis of mining and equipment costs. Prerequisite: 400, Civil Engineering 263 or Mining Engineering 320, Geology 390.

420-3 Mineral and Coal Processing. Principles of processing minerals, aggregates and coal, including unit operations of comminution, classification, solid-solid separation, dewatering and tailings disposal. Laboratory investigations of the fundamental principles governing unit operations including size reduction, mineral liberation, classification mineral recovery and dewatering. Laboratory. Prerequisite: 400, Chemistry 210, Physics 205b, Mathematics 305, Engineering 313 or concurrent enrollment. Consent of instructor for graduate students and non-majors.

421-3 Mineral Processing Plant Design. Engineering design of unit operations used for mineral, aggregate, coal processing, flowsheet design, simulation of processing plants, evaluation of plant performance and process control. Laboratory investigations on the design of unit operations including size reduction, classification, gravity separation, flotation and dewatering. Laboratory. Prerequisite: 417 or concurrent enrollment and 420. Consent of instructor for graduate students and non-majors.

425-3 Mine Ventilation Systems Analysis and Design. Study of the theories and practice of natural and forced mine ventilation. Fan and mine characteristics. Ventilation network analysis. Mine ventilation design and problem analysis. Laboratory. Prerequisite: 410, Engineering 300 and 313. Consent of instructor for graduate students and non-majors.

430-3 Economics of Mineral Resources. Economics of mineral resources. Investment decision making criteria; economic viability of mining projects, financing mining projects; sensitivity and risk analyses. Prerequisite: 400, Engineering 361, or consent of instructor.

431-3 Rock Mechanics: Principles and Design. Analysis of stress and strain, elementary elasticity, stress distribution around openings, engineering properties of rocks, artificial support and reinforcement, slope stability. Laboratory. Prerequisite: Engineering 311, Mathematics 305.

435-3 Operations Research and Computers in Mine Design. Mine systems analysis, operations research and statistics in decision making, production engineering, mine planning, optimization, linear programming, computer simulation. Prerequisite: either 410 and 415, or 418 alone, also Engineering 222 and 361.

440-3 Material Handling Systems. Analysis and design of material handling systems and subsystems. Material handling systems economics. Prerequisite: 410, 413, 415 and 417 or concurrent enrollment. Consent of instructor for graduate students and non-majors.

445-3 Mine Equipment Maintenance Engineering. Mechanical, hydraulic and electrical systems in mining equipment. Equipment maintenance problems in mines and minerals processing facilities. Cost of lost production. Cost centers and identification of high cost problem areas in mining operations. Principles, design and development of maintenance systems. Maintenance organization, responsibility, and scheduling. Prerequisite: 410, 415, 417, Engineering 385 or concurrent enrollment. Consent of instructor for graduate students and non-majors.

455-3 Mine Environment, Health and Safety. Analysis of mine environmental impacts and their mitigation, safety problems and rules and regulations, hazards and accidents sealing and recovery of mines, design of mine emergency plans, safety methods, and health hazard control plans. Acid mine drainage, minerals waste disposal, environmental remediation. Laboratory. Prerequisite: 410, 415, 417 or concurrent enrollment. Consent of instructor for graduate students and non-majors.

460-4 Computer Aided Mine Systems Analysis and Design. Projects in planning and design of surface and underground mining systems. Evaluate and design mining subsystems; integrate subsystems and procedures into a preliminary mine design; and optimize operations from exploration to closure. Ethics and professionalism in engineering. Two lectures and two two-hour laboratories per week. Prerequisite: 420, 425, 431 or consent of instructor.

470-3 Experimental Methods in Rock Mechanics. Supplement theoretical knowledge gained in 431 with laboratory experiments. Physical property tests for specific gravity, moisture, density porosity of rocks. Unconfined and confined compressive strength, tensile strength, shear strength, photoelasticity, static and dynamic strain measurement systems, field instrumentation techniques. Laboratory. Prerequisite: 431.

475-3 Analysis and Design of Mine Excavations. Rock classification; design of shafts, slopes, tunnels and underground chambers; support re-

quirements; design of slopes; design of underground mining systems from ground control point of view; design of impoundments. Prerequisite: 410, 415 and 431. Consent of instructor for graduate students and non-majors.

480-3 Rock Fragmentation Systems. Principles of rock fragmentation. Drilling and mechanics of rock penetration, drillability indices. Chemistry of explosives. Design of blast patterns in surface and underground mines and quarries, prevention of air blast, vibration and noise. Prerequisite: 415. Consent of instructor for graduate students and non-majors.

511-3 Advanced Ground Control. Ground control in viscoelastic, plastic, and jointed rocks, artificial rock stabilization, in-situ stresses, minimizing structural damage due to subsidence, bumps and rock bursts. Prerequisite: 431 or consent of instructor.

519-2 Advanced Mine Environment and Pollution Control. Study of the design of coal dust control plan; methane control. Design of mine illumination system, noise control and water pollution control. Prerequisite: 410, 415.

530-3 Mine Management. Study of basic management principles, labor relations, and coal wage agreement. Costing methods and cost control. Operations organization and performance analysis. Prerequisite: consent of instructor.

535-3 Rock Fragmentation. Principles of rock fragmentation, cutting and drilling, mechanics of rock penetration, drillability indices, use of explosives in rock fragmentation, design of blasting patterns in surface and underground mines, pre-

vention of airblast and noise due to blasting, chemical fragmentation. Prerequisite: 415, 431 or consent of instructor.

540-3 Production Engineering in Coal Mines. Operations analyses of production cycles in surface and underground coal mining systems, mine planning and design using computer models, computer simulation, economic analysis of mining systems. Prerequisite: 435 or consent of instructor.

545-3 Tunnelling. Tunnelling through consolidated and unconsolidated geologic materials—cut and cover, drilling and blasting, and rapid excavation tunnelling techniques. Classification systems for geologic materials, hydrological investigations, tunnel linings—types, requirements and their design. Instrumentation. Prerequisite: 431 or equivalent, or consent of instructor.

580-1 to 2 Seminar. Collective and/or individual studies in coal extraction or utilization.

592-1 to 5 Special Investigations. Special studies of coal extraction or utilization problems.

599-1 to 6 Thesis.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Molecular Biology, Microbiology and Biochemistry

E-mail: mbmb@science.siu.edu

COLLEGE OF SCIENCE/SCHOOL OF MEDICINE

Achenbach, Laurie, Assistant Professor, Ph.D., University of Illinois, Urbana-Champaign 1988; 1990. Prokaryotic evolution; molecular genetic analysis of the structure, function, and regulation of genes in archaeobacteria; iron regulation of gene expression in pathogenic bacteria; molecular genetic analysis of pathogenic *Fusarium solani*.

Bartholomew, Blaine, Assistant Professor, Ph.D., University of California, Davis, 1988; 1991. Protein-DNA interactions, gene regulation, chromatin, eukaryotic transcription, photoaffinity labeling, modified nucleotides, protein structure/function.

Borgia, Peter, Professor, Ph.D., (Springfield), University of Illinois, Urbana-Champaign, 1973; 1976. Cloning and characterization of genes for chitin synthesis in *Aspergillus*.

Brewer, Gregory J., Professor, Ph.D., (Springfield), University of California, San Diego, 1972; 1980. Alzheimer's disease, neuron development and adhesion; neurobiology of synaptogenesis.

Caster, John, Assistant Professor, Ph.D., St. Louis University, 1968; 1972.

Clark, David P., Professor, Ph.D., University of Bristol, 1977; 1980. Genetics and regulation of anaerobic growth in *Escherichia coli*.

Coates, John D., Assistant Professor, Ph.D., University College Galway (Ireland), 1991; 1997. Ecology, physiology and phylogeny of ferric-iron reducing bacteria.

Cooper, Morris D., Professor, Ph.D., (Springfield), University of Georgia, 1971; 1973. Mucosal immune responses of the human fallopian tube to *Neisseria gonorrhoeae* and *Chlamydia trachomatis* infections. Topical microbicide activity against sexually transmitted disease pathogens.

Fix, Douglas F., Associate Professor, Ph.D., Indiana University, 1983; 1987. Molecular mechanisms of mutagenesis in *Escherichia coli*.

Gupta, Ramesh, Associate Professor, Ph.D., University of Illinois, 1981; 1984. Molecular biology of archaea (archaeobacteria), transcription, RNA processing.

Haddock, John D., Assistant Professor, Ph.D., Virginia Tech, 1990; 1995. Physiology and biochemistry of aerobic and anaerobic bacteria that degrade organic pollutants and naturally occurring aromatic compounds.

Hardwicke, Peter, M.D., Professor, Ph.D., Kings College, London, 1969, 1985. Calcium ion transport across muscle membrane, membrane proteins and lipids.

Huvos, Piroska, Visiting Assistant Professor, Ph.D., Eotvos Lorand Science University, Budapest, Hungary; 1971, 1988. Eucaryotic genome organization—programmed and unprogrammed DNA arrangements.

Jackson, Robert W., Professor, Ph.D., (Springfield), Purdue University, 1963; 1974.

Lim, Louis W., Assistant Professor, Ph.D., Washington University, 1979; 1991. X-ray crystallography, protein structure/function, folding and stability of proteins, structural basis of enzyme inhibition.

Madigan, Michael T., Professor, Ph.D., University of Wisconsin, 1976; 1979. General microbiology; bacterial diversity, phototrophic bacteria; nitrogen fixation.

Marcuzzi, Adriana B., Assistant Professor, Ph.D., (Springfield), University of Iowa, 1988; 1994. Human immunodeficiency virus interactions with the host cell; emphasis on central nervous system pathogenesis.

Maroun, Leonard, Professor, Ph.D., (Springfield), Catholic University of America, 1970; 1972. Molecular biology of interferon action; relationship between interferon action and Down syndrome.

Martinko, John M., Associate Professor, Ph.D., SUNY (Buffalo), 1978; 1981. Biochemistry, molecular biology, and evolution of mouse major histocompatibility complex molecules; mouse T-cell repertoires; molecular evolution of ABO glycosyltransferases in primates.

Moticka, Edward, Professor, Ph.D., (Springfield), University of Illinois, 1970; 1978. Immunoregulation of autoantibody production and autoimmune disease; ocular immunology, including regulation of corneal graft rejection.

Myers, Walter L., Professor, Ph.D., (Springfield), University of Wisconsin, 1962; 1973. Molecular

immunology of host antitumor responses; effects of B7-1 gene transfection on tumor immunogenicity.

Niederhoffer, Eric C., Associate Professor, Ph.D., Texas A&M University, 1983; 1990. Metal ions and bacteria, cellular differentiation, virulence factors, stress responses

Parker, Jack, Professor and *Dean*, College of Science, Ph.D., Purdue University, 1973; 1977. Molecular genetics, use of in vivo and in vitro genetics and biochemical techniques to investigate regulation, function, and evolution of the translational apparatus in *Escherichia coli*.

Rouhandeh, Hassan, Professor, *Emeritus*, Ph.D., Kansas State University, 1959; 1967.

Rowan, Dighton F., Professor, *Emeritus*, Ph.D., Stanford University, 1954; 1973.

Schmit, Joseph C., Associate Professor, Ph.D., Purdue University, 1971; 1976. Developmental biochemistry and genetics, regulation of enzymatic activity, genetic and biochemical control of amino acid metabolism.

Shriver, John W., Professor, Case Western University, 1977; 1981. Structural biology and biophysics; Hyperthermophile protein folding and stability; protein structure determination by NMR; calorimetric studies of the thermodynamics of protein structure.

Tewari, Ram P., Professor, Ph.D., (Springfield), Ohio State University, 1954; 1973. Molecular mechanisms and immune responses in respiratory fungal infections and immunoprophylaxis for histoplasmosis.

Watabe, Kounosuke, Associate Professor, Ph.D., (Springfield) Kyoto University, Japan, 1981; 1985. Molecular biology of tumor metastasis; regulation of gene expression of tumor metastasis genes.

Graduate programs are offered which lead to the Doctor of Philosophy and Master of Science degrees in Molecular Biology, Microbiology and Biochemistry. These interdisciplinary programs draw their faculty primarily from the Department of Microbiology and Department of Medical Biochemistry at the Carbondale campus, and Department of Medical Microbiology and Immunology at the Springfield campus. The programs are designed to offer advanced training in biochemistry, biophysics, bacteriology, genetics, immunology, microbial physiology, virology, mycology, molecular biology, cell biology, developmental biology, and structural biology. Both degree programs require laboratory research.

Admission

Prospective graduate students should have an undergraduate degree in any of the biological, chemical or physical sciences. The applicants are recommended to have completed courses in biology, organic chemistry, physics and mathematics. Strong candidates with deficiencies in any area may be admitted, but such deficiencies may restrict the research areas available to the student and may lead to requirements for additional courses during graduate study. An advisory system in the program (see below) will help students in planning their course of study. Prospective students are encouraged to contact program faculty in areas of their research interest.

Students may be admitted to the doctoral program with a bachelor's or master's degree. Students in the master's program can be admitted to the doctoral

program via accelerated entry or the master's equivalency option by the recommendation of the faculty and approval of the Graduate School.

All application materials should be submitted to the Program Director. Upon recommendation of the Program Admissions Committee, the application is transmitted to the Graduate School for approval.

The program requires a grade point average (GPA) of 2.7 ($A = 4.0$) for admission into the master's program and a GPA of 3.25 in graduate level work for admission into the doctoral program. An excellent record in undergraduate coursework and a strong recommendation of the Program Admissions Committee is required for direct admission to the doctoral program after a bachelor's degree.

Applicants are required to submit Graduate Record Examination (GRE) general test scores. Submission of test scores of the GRE advanced (biochemistry, cell and molecular biology or biology or chemistry) examinations is also encouraged.

International students whose native language is not English will be required to obtain at least 550 on the Test of English as a Foreign Language (TOEFL).

Financial Assistance

Fellowships and assistantships are available through the program and the participating departments for qualified applicants.

Advisement and General Requirements

The Program Director or the Departmental Graduate Advisors as designates will assist each incoming student with the initial planning of a program of study and will advise the student until a Research Director is chosen.

Research Director and Graduate Committee Selection. Each student should select a Research Director as soon as possible during the first year. The graduate committee for master's students shall consist of the Research Director (chair), and two additional graduate faculty members. The doctoral committee shall consist of at least five graduate faculty members to include the Research Director (committee chair), three members derived from the participating departments and one member from outside the program. The Program Director, if not otherwise appointed, is an ex-officio (non-voting) member of every graduate committee.

Graduate Committee Functions. The graduate committee will:

1. plan and approve the student's program of study.
2. review the student's progress in courses and suggest and approve changes in the program of study.
3. evaluate the student's progress in research and make appropriate recommendations.
4. meet and determine, on a yearly basis whether a student is making satisfactory progress and may continue toward a degree. If continuation is denied, the committee must notify the Program Director, in writing of the reasons for this denial.
5. administer written and oral preliminary examinations to the doctoral student.
6. read and evaluate the student's thesis or dissertation.
7. conduct the required oral examinations.

Formal Course Requirements. All course requirements of the program and Graduate School are minimum requirements. Additional courses may be required by the student's graduate committee to meet any deficiencies or provide proficiency in a specialized area. Certain courses are required of all students,

while others meet the requirements of individual student's area of specialization, as determined by the student's graduate committee. The Program Director, with the advice of the Curriculum Committee or the student's graduate committee may designate certain other courses within or outside of the Program which meet some formal course requirements. Any course (or its equivalent) that meets the requirements of the Molecular Biology, Microbiology and Biochemistry graduate program and taken at SIUC or at any other institution before admission to the program need not be repeated. Course equivalency will be determined by the Program Director in consultation with the appropriate committee or faculty.

The formal core course requirements for both master's and Ph.D. degree can be met by taking either MBMB 451a,b, and 460; or MBMB 405, 530 and a one semester graduate level biochemistry course; or their equivalent. All students must take either MBMB 502, Introduction to Research, or MBMB 504, Research Methods, and must also take during each semester in residence 1 hour of MBMB 597, Seminar and Professional Training.

Master's students have to take two courses and the doctoral students have to take three courses from a list of approved courses for specialization. Only one 400 level course from this list can be used to meet this requirement. Currently this list consists of MBMB 403, 421, 425, 444, 453, 455, 456, 470, 520, 531, 532, 533, 543, 551, 552, 553, and 562. These courses are selected with the approval of the student's graduate committee, Research Director or the Departmental Graduate Advisor, as appropriate at the time of selection. In addition, master's students are also required to earn at least a total of 8 hours in research and thesis (MBMB 515, 598 and 599; a minimum of 3 and maximum of 6 hours for MBMB 599) credit, prepare a thesis on the research project and pass a final oral examination, which serves as the comprehensive examination.

Preliminary Examination and Dissertation for the Ph.D. Degree. Each student in the doctoral program must pass a preliminary examination and meet the Graduate School residency requirement before being advanced to candidacy. The students can take the preliminary examination after completing the formal course requirements.

The student's graduate committee will prepare and administer a written preliminary examination covering various areas of molecular biology, microbiology and biochemistry, with particular emphasis in the area of concentration declared. This declaration will be done by means of a prospectus of a dissertation composed of (1) a proposal for the dissertation research, (2) biographical information on the candidate, and (3) a list of the courses taken during the candidate's graduate program. The proposal should address the proposed graduate research project, and be written in the NIH (National Institutes of Health) or NSF (National Science Foundation) approved format. The prospectus shall be available to the committee members at least 14 days prior to the date of the examination.

Upon satisfactory completion of the written examination, the candidate will meet with the committee as a whole and discuss the prospectus in detail. The committee will then conduct an oral preliminary examination. At this time, the committee may ask in-depth questions about the research project and other areas of molecular biology, microbiology and biochemistry particularly relevant to the candidate's research. A written examination score of at least 80% is required before a student can proceed to the oral portion of the preliminary examination, and at least 4 of the 5 committee members must judge the oral performance acceptable for a student to pass the preliminary examination overall. In the event that either the written or oral preliminary examination is failed, a student may request only one re-examination.

Ph.D. students must earn at least 24 Dissertation (MBMB 600) credit hours and prepare and defend a dissertation.

Courses (MBMB)

403-3 Medical Microbiology Lecture. (Same as Microbiology 403) A survey of the more common bacterial, mycotic and viral infections of humans with particular emphasis on the distinctive properties, pathogenic mechanisms, epidemiology, immunology, diagnosis and control of disease-causing microorganisms. Three hours lecture. Spring semester. Prerequisite: Microbiology 301; or consent of instructor.

405-3 Clinical Microbiology. (Same as Microbiology 405) (This course will be offered in Springfield only). A comprehensive course for health science professionals covering the biology, virulence mechanisms and identification of infectious agents important in human disease and host-defense mechanisms. Clinical applications are emphasized. Three hours lecture. Prerequisite: Microbiology 301; or consent of instructor.

421-3 Biotechnology. (Same as Microbiology 421) Topics covered will include the genetic basis of the revolution in biotechnology, medical applications including genetic screening and therapeutic agents, industrial biotechnology and fermentation, and agricultural applications. Three hours lecture. Prerequisite: Microbiology 302; or consent of instructor.

425-3 Biochemistry and Physiology of Microorganisms Lecture. (Same as Microbiology 425) Chemical composition, cellular structure and metabolism of microorganisms. Prerequisite: organic chemistry or consent of instructor.

444-3 Risk Assessment for Genetics and Medicine. (Same as Microbiology 444) A lecture-discussion course on the use of Bayesian probability to assess risks in human genetics and medicine. Includes basic laws of probability, pedigree analysis, the interpretation of laboratory tests and basic clinical decision theory, including decision trees. Active problem solving will be emphasized. Prerequisite: Biology 305; or consent of instructor.

453-3 Immunology Lecture. (Same as Microbiology 453) Natural and acquired immunity. Antigens, antibodies and antigen-antibody reactions in vitro and in vivo. Three hours lecture. Prerequisite: 403; or consent of instructor.

455-2 Medical Immunology. (Same as Microbiology 455. This course will be offered in Springfield only). A survey of the components of the immune system and how they interact with each other to produce responses that are important in the control or mediation of human disease. Two hours lecture. Prerequisite: Microbiology 301; or consent of instructor.

460-3 Genetics of Bacteria and Viruses Lecture. (Same as Microbiology 460) Genetic mechanisms, mutation, transformation, recombination, transduction, lysogeny, phenotypic mixing and reactivation phenomena. Three hours lecture. Prerequisite: Microbiology 301 and 302; or consent of instructor.

470-3 Prokaryotic Diversity. (Same as Microbiology 470) A consideration of the major groups of prokaryotes with special emphasis on their comparative physiology and biochemistry. Prerequisite: Microbiology 301; or consent of instructor.

480-4 Molecular Biology of Microorganisms Laboratory. (Same as Microbiology 480) Genetic and biochemical analyses of microorganisms using a variety of techniques in molecular biology, molecular genetics and biotechnology. Six hours laboratory per week plus two hours of supervised unstructured laboratory work in most weeks. Prerequisite: 302 and one (one concurrent enrollment) in one of the following: 421, 425, or 460.

481-4 Diagnostic and Applied Microbiology Laboratory. (Same as Microbiology 481) Enrichment and isolation of medically relevant prokaryotes from natural samples, diagnostic methods for the identification of pathogenic bacteria and infection and the nature of the immune response. Six hours laboratory per week plus two hours unstructured, supervised laboratory work in most weeks. Prerequisite: Microbiology 301 and 302 and two (or concurrent enrollment in two) of the following: 403, 453, 470.

502-3 Introduction to Research. An introductory research course. Students rotate through at least three research laboratories. Lecture and laboratory hours to be arranged. Students can not get credit for both 502 and 504. Prerequisite: acceptance into the Molecular Biology, Microbiology and Biochemistry graduate program.

504-3 Research Methods. Problem definition, experimental design and research methods in specific areas of molecular biology, biochemistry and microbiology. Lecture and laboratory hours to be arranged. Students can not get credit for both 502 and 504. Prerequisite: acceptance into the Molecular Biology, Microbiology and Biochemistry graduate program.

505-1 Special Topics. Discussion of current research in specific areas of molecular biology, microbiology and biochemistry. One hour of group discussion per week. Prerequisite: consent of instructor.

515-1 to 6 (1 to 6 per semester) Master's Degree Research. Individualized laboratory research and training. Graded credit for Master's Degree only. Maximum 6 credit hours. Prerequisite: admission to master's program in Molecular Biology, Microbiology and Biochemistry and consent of instructor.

520-2 Advanced Microbial Physiology and Control Mechanisms. The physiology, biochemistry and genetics of microbial regulatory mechanisms. Topics include transport phenomena, catabolite and nitrogen repression, the stringent response, and autoregulatory phenomena. Two lectures per week. Prerequisite: 425; or Chemistry 451a and b, or consent of instructor.

528-1 to 3 Special Readings in Molecular Biology, Microbiology and Biochemistry. Supervised readings for qualified graduate students. Prerequisite: consent of instructor.

530-3 Advanced Cellular Biology. (This course will be offered in Springfield only). An advanced course based on current literature concerning the cellular biology of eukaryotes. Both students and faculty will make presentations followed by discussion. Topics will include: the cellular and subcellular structure and function of the lower eukaryotes, the biochemistry and biophysics of eukaryotic membrane systems and the higher sub-

cellular functions of mammalian cells. Prerequisite: 400 level course in genetics and in biochemistry or consent of instructor.

531-3 Molecular and Cellular Biology. Lecture course in molecular and cellular biological techniques used in the study of organisms; structures and processes involved in genome organization; packaging and replication of DNA; transcription and RNA processing; recombination and transposition of DNA; gene regulation with emphasis on developmental processes; signal transduction; structure and function of cellular components; cell-cell interaction; etc. Prerequisite: Biochemistry 451b or consent of instructor; Microbiology 460 recommended.

532-3 Methods of Structural Biology. Lecture course in molecular computer graphics, macromolecular structure prediction, molecular dynamics, applications of NMR and X-ray methods to structural determinations of biological macromolecules; spectroscopic methods including UV, IR, Raman, fluorescence and circular dichroism methods. Prerequisite: Biochemistry 456 or consent of instructor.

533-3 Advanced Biochemistry. Lecture course in control mechanisms of biochemical processes, enzyme kinetics, regulation and allostery, coupled systems and energy transduction, membranes, transport, etc. Prerequisite: Biochemistry 451a or consent of instructor.

543-3 Host-Microbial Interactions. (This course will be offered in Springfield only). A lecture course that deals in depth with mechanisms of symbiosis and other interactions with respect to the biochemistry of microbe and host. Immunological aspects are discussed. Emphasis is placed on molecular mechanisms. Offered alternate years. Prerequisite: 403 or 405 or consent of instructor.

551-3 Advanced Immunology. A lecture course that intensively considers the most recent developments in antibody structure, antigenic analysis, and antigen-antibody reactions. A special focus will be on the use of immunology as a research tool. Prerequisite: 453 or equivalent, or consent of instructor.

552-3 Cellular Immunology. (This course will be offered in Springfield only). A lecture-discussion course covering contemporary aspects of cellular immunology. The cellular nature of immune responses as well as current information on the regulation of such responses will be considered. Topics will include cellular components of an immune response; receptors, recognition and signals; cellular cooperation; immune regulation; and tolerance and autoreactivity. Prerequisite: 453 or 455 or consent of instructor.

553-3 Advanced Medical Microbiology and Immunology. (This course will be offered in Springfield only). A lecture course providing an in-depth analysis of the mechanisms of pathogenesis of bacterial, viral and mycotic infections. Immune mechanisms involved in recovery, development of immunity and infection mediated im-

munopathology will be covered. Prerequisite: 403 and 453; or 405 and 455; or consent of instructor.

562-3 Molecular Genetics. A lecture and discussion course emphasizing current research and new techniques in replication, transcription, translation, genome organization, gene flow from a general systems viewpoint and regulation. Prerequisite: 460 or consent of instructor.

570-1 to 15 (1 to 6 per semester) Advanced Topics. Advanced topics in (a) Molecular Biology, (b) Biochemistry, (c) Microbiology, (d) Immunology, (e) Virology, (f) Structural Biology, (g) Biophysics, and (h) General Cell Biology. Selected topics of current scientific interest to the faculty and students. Specific topic to be covered in any semester will be announced. Prerequisite: consent of instructor.

597-1 to 15 (1 per semester) Seminar and Professional Training. Departmental seminars, and other appropriate professional assignments. Graded *S/U* only. One hour required each semester in residence. Prerequisite: graduate standing.

598-1 to 66 (1 to 12 per semester) Research. Graded *S/U* only. Prerequisite: consent of instructor.

599-1 to 6 (1 to 6 per semester) Thesis. Research for Master's degree thesis. Prerequisite: consent of instructor.

600-1 to 36 (1 to 12 per semester) Dissertation. Research for Ph.D. degree dissertation. Prerequisite: consent of instructor.

601-1 (1 per semester) Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Courses (BCHM)

451-6 (3,3) Biochemistry. (Same as Biochemistry 451 and Chemistry 451) (a) Chemistry and function of amino acids, proteins and enzymes; enzyme kinetics; chemistry, function and metabolism of carbohydrates; citric acid cycle; electron transport and oxidative phosphorylation. (b) Chemistry, function, and metabolism of lipids; nitrogen metabolism; nucleic acid and protein biosynthesis; metabolic regulation. Three lectures per week. Must be taken in a, b sequence. Prerequisite: one year of organic chemistry.

456-3 Biophysical Chemistry. (Same as Biochemistry 456 and Chemistry 456) A one semester course in biophysical chemistry intended for biochemists and molecular biologists. Emphasis will be on solution thermodynamics, kinetics and spectroscopy applied to biological systems. Prerequisite: Chemistry 340 and 342, 451a or concurrent enrollment, Mathematics 141 or 150.

Music

E-mail: fstemp@siu.edu

COLLEGE OF LIBERAL ARTS

Allison, Robert, Associate Professor, D.M.A., University of Illinois, 1988; 1982. Trumpet, jazz.

Barta, Michael, Professor, M.Mus., Liszt Academy Conservatory, 1975; 1985. Violin, music literature.

Barwick, Steven, Professor, *Emeritus*, Ph.D., Harvard University, 1949; 1955.

Bateman, Marianne Webb, Professor, M.Mus., University of Michigan, 1959; 1965. Organ, music theory.

Beattie, Donald, Associate Professor, M.Mus., University of Colorado, 1977; 1979. Class piano, piano pedagogy.

Best, Richard, Professor, Metropolitan Opera School, 1968; 1984. Voice.

Bottje, Will Gay, Professor, *Emeritus*, A.Mus.D., Eastman School of Music, 1955; 1957.

Breznikar, Joseph, Professor, M.Mus., University of Akron, 1977; 1980. Classical guitar.

Brown, Philip, Associate Professor, M.M.E., University of North Texas, 1983; 1991. Jazz, string bass, music business.

Delphin, Wilfred, Professor, D.M.A., University of Southern Mississippi, 1978; 1988. Piano.

Fink, Timothy, Assistant Professor, M.F.A., Southern Illinois University at Carbondale, 1993; 1994. Opera music theater.

Fligel, Charles, Associate Professor, M.Mus., University of Kentucky, 1966; 1976. Bassoon, music theory.

Grizzell, Mary Jane, Assistant Professor, *Emerita*, M.Mus., Eastman School of Music, 1943; 1959.

Hanes, Michael D., Professor, M.M.Ed., Southern Illinois University at Carbondale, 1965; 1970. Bands, musical theater, percussion.

House, Mary Elaine Wallace, Professor, *Emerita*, M. Mus., University of Illinois, 1954; 1969.

Hunt, C. B., Jr., Professor, *Emeritus*, Ph.D., University of California, Los Angeles, 1949; 1974.

Hussey, George, Professor, *Emeritus*, M.A.Ed., Washington University, 1963; 1963. Oboe, music appreciation, orchestra.

The School of Music faculty numbers twenty-seven full-time positions. Within its ranks are to be found many outstanding performers and educators, representing a broad diversification of background and talent. Faculty members present many solo and small ensemble performances, as well as clinics and workshops, during the school year. Sixteen members of the faculty hold doctorates or its equivalent.

Library Facilities

In addition to Morris Library, the School of Music has its own recording and score library, including modern stereo listening facilities, cassettes, and cassette decks for self-instruction in ear training and music literature, some 1600 LP recordings and tapes, over 1100 scores, many in multiple copies, and 94 books and reference works. The self-instruction center in Morris Library provides tape recordings of theory and literature for student use.

Mandat, Eric, Professor, D.M.A., Eastman School of Music, 1986; 1981. Clarinet, composition.

McHugh, Catherine, Professor, *Emerita*, Ed.D., Columbia University, 1959; 1969.

Mellado, Daniel, Associate Professor, Ph.D., Michigan State University, 1979; 1979. Cello.

Mochnick, John, Associate Professor, D.M.A., University of Cincinnati, 1978, 1984. Choral.

Mueller, Robert, Professor, *Emeritus*, Ph.D., Indiana University, 1964; 1948.

Olsson, Phillip, Professor, *Emeritus*, M.Mus., Chicago Conservatory, 1949; 1949.

Park, Sook Ryeon, Assistant Professor, D.M.A., Eastman School of Music, 1993; 1993. Piano.

Phillips, Dan, Associate Professor, M.M., University of Notre Dame, 1979; 1988. Bands, horn.

Poulos, Helen, Associate Professor, *Emerita*, D.M., Indiana University, 1971; 1969.

Resnick, Robert, Professor, *Emeritus*, M.Mus., Wichita State University, 1949; 1949.

Roubos, Robert, Professor, D.M.A., University of Michigan, 1965; 1981.

Simmons, Margaret, Associate Professor, M.Mus., University of Illinois, 1976; 1977. Piano accompanying.

Stemper, Frank, Professor and *Graduate Coordinator*, Ph.D., University of California, 1981; 1983. Composition.

Taylor, Charles, Associate Professor, *Emeritus*, Ed.D., Columbia University, 1950; 1957.

Underwood, Jervis, Professor, *Emeritus*, Ph.D., North Texas State University, 1970; 1971. Flute, musicology, theory.

Wagner, Jeanine, Associate Professor, D.M.A., University of Illinois, 1987; 1984. Voice, opera.

Weiss, Robert, Professor and *Director*, Ph.D., Southern Illinois University at Carbondale, 1984; 1978. Music education, low bass.

Werner, Kent, Associate Professor, *Emeritus*, Ph.D., University of Iowa, 1966; 1963.

Musical Organizations

A wide variety of performing opportunities is available, including the University Symphony, symphonic band, wind ensemble, jazz ensemble, Marching Salukis, brass ensemble, guitar ensemble, percussion ensemble, choral union, concert choir, chamber choir, and vocal jazz ensemble. The Marjorie Lawrence Opera Workshop presents one full opera production each year in addition to several programs of small operas and operatic excerpts. The Summer Music Theater presents two full-scale musicals during the summer session.

Musical Performances

Some 130 School of Music programs are presented each year, plus Southern Illinois Concert Series and Celebrity Series appearances by well-known concert artists. A program booklet for further details concerning concert activity is available through the School of Music.

Other Resources

A fifty-eight rank Reuter pipe organ, the principal instrument for recitals and teaching, is installed in Shryock Auditorium. Available for practicing are a four-rank Ott tracker organ, a six-rank Moeller, and a four-rank Wicks. Eighty-five pianos, including twenty-two in practice rooms, an eighteen-unit electronic piano lab, and a full complement of band and orchestral instruments are available.

Graduate Assistantship and Fellowship Applications

Any student seeking a master's degree may apply to the coordinator of graduate studies in music for a graduate assistantship. An undergraduate overall grade-point average of 2.8 (A = 4 points) is required for consideration. The assignment of assistantships, for those who are eligible, is based upon School of Music needs and student qualifications. Graduate Assistants must enroll in courses for the required 6 hour minimum each semester of residency which count toward degree requirements. A student with an overall grade-point average of 3.5 or better is eligible to apply for a graduate fellowship involving no School of Music assignment. The School of Music offers six programs leading to the Master of Music degree. Each master's degree requires a minimum total of 30 credits, with a minimum total of 15 credits at the 500 level. Students enrolled in a program leading to a Ph.D. degree major in education, with a concentration in curriculum and instruction education, may choose the elective portion of their programs from graduate courses offered in the School of Music.

Master of Music Degree Standard Curricula

MUSIC HISTORY AND LITERATURE CONCENTRATION

Majors complete MUS 501-3; 502-4 (2,2); 2 credits (1,1) from 566; 6 credits selected from 475, 476, 477, 573, 574, or 578; 599-6; 6 credits in music history-literature electives; 3 elective credits in non-music history-literature courses. In addition to the general requirements for graduation, music history/literature majors must have successfully completed two years of a foreign language (preferably French or German), at the undergraduate level, or pass 388–488 (German or French) as a research tool with a grade of B or higher.

MUSIC THEORY AND COMPOSITION CONCENTRATION

Majors complete MUS 501-3; 502-4 (2,2); 545-3; 3 credits from the 470 or 570 series; 480-4 (580-4 must be completed by composition majors); 2 credits (1,1) selected from 566; 599-6; 5 credits of approved music electives in theory-composition, history-literature, conducting, or performance.

PERFORMANCE CONCENTRATION

Majors complete MUS 501-3; 502a or b (2); 5 credits from 461, 482, or 470 or 570 series; 8 credits in 540 (440 if specializing in pedagogy); 2 credits from 566, 567, or 568 (or other electives if keyboard major); 6 credits in 595 and 598 (recital and document); 4 credits in non-performing music elective. If specializing in conducting, majors must complete MUS 501-3; 502-4 (2,2); 556-4 (2,2); 3-6 credits from the 470 or 570 series; 2-4 credits in 440; 2 credits from 566 (1,1) or other electives if keyboard major; 6 credits in 595 and 598 (recital and document); 3 credits in music electives.

OPERA/MUSIC THEATER CONCENTRATION

Opera/music theater majors must have an undergraduate degree major in music with appropriate experience in opera or music theater, or in theater with additional music study sufficient to qualify in performance, theory, and history of music. Core courses (required) include MUS 468 (2-4); 501 (3); 570 (3); 595 (2); 598 (4) or 599 (6) in lieu of 598 and 595. Also required are MUS 567 or 568 (1,1,1,1); 6 credits from 440-540, 461, 472, 479c or 556; and 6 hours of *approved* graduate level theater credits.

PIANO PEDAGOGY CONCENTRATION

Majors complete hours of credit in the following music courses: 3 in 501; 4 in 440 or 540; 4 in 498 and 2 in 595 or 4 (2,2) in 498 and 2 in 595 or 2 in 498 and 4 in 599; 410; 510 (2,2,2); 2 (1,1) from 566; 3 credits from approved music electives; and 4 credits from approved non-music courses (in fields of guidance and educational psychology, higher education, philosophy, and speech communication).

MUSIC EDUCATION CONCENTRATION

Majors complete MUS 501-3; 502a or b (2); 503 and 509; 5 hours of approved music education courses and 2 credits of approved music electives; 2 credits (1,1) from 566; 5 credits from the 470 and 570 series; 599-6 or 6 credits from 499 and 595; or 595 and 598.

General Information

Fees. Fees are not charged for individual instruction, practice rooms, or instrument lockers. Instruments are loaned without charge when needed. Student expenses for music, textbooks, and other incidental supplies are usually nominal.

Advisement. The graduate coordinator in music supervises the overall planning of the student's program and designates the document or thesis director.

Diagnostic tests in music theory and history are given during orientation at the beginning of the fall semester and must be taken by all students at the first opportunity after admission. The student with weaknesses in certain areas may be asked to take additional work in those areas. A student will be accepted as a performance major in the Master of Music degree program after satisfactory audition in person, either before admission or during orientation. A performance major may be conditionally accepted on the basis of a tape recording; but a student accepted conditionally may be asked to audition in person during orientation or during the first term of residence, and may be required to register at the 400 level in performance until approved by personal audition. Current brochures from various performance areas and the *Graduate Handbook in Music* describe the level of repertory expected, audition procedures, and diagnostic tests.

NOTE: The B.A. degree does not provide the necessary prerequisites for graduate study in a Master of Music degree program.

Ensemble Requirement. All graduate students are required to register for MUS 566 (MUS 567 or 568 may substitute for MUS 566 only for those students whose concentration is opera music theater) each semester of degree study (summers excepted). Participation is required each semester in one or more of the following: Marching Salukis, symphonic band, wind ensemble, symphony, choral union, concert choir, chamber singers, or guitar ensemble. In addition, students may elect participation in other regularly scheduled emphasis. Graduate assistants assigned ensemble accompanying must register for alternate ensemble for credit. Petitions for exceptions to the ensemble requirement must be made in writing and presented to the School of Music graduate committee for consideration.

Exceptions to Degree Requirements. Appropriate substitutions in the curriculum for the Master of Music degree may be made if recommended by the student's adviser and approved by the graduate committee in music. Students who expect to earn more than half of their credits during summer terms only, or by a combination of summer attendance and night classes, may similarly propose a sequence of course offerings, following the above curricular patterns as far as possible. All curricula must meet Graduate School requirements and be approved by the graduate committee in music. Special summer students changing plans and registering for more than one regular fall or spring semester will ordinarily follow the appropriate standard curriculum.

The Thesis, Document, and Research Paper. All master's degree candidates will complete either (1) a thesis, or (2) a large, original composition and document, or (3) a full recital performance and document.

No later than the beginning of the semester preceding the semester in which the student expects to graduate, the graduate coordinator, in consultation with the student, will designate a document or thesis director from the current list of graduate faculty from whom a student has taken graduate level courses. The document or thesis director guides the student's choice of topic and is responsible for the progress and quality of the resulting work. The document director normally heads the student's orals committee. Before any work is begun on the thesis or document, the student submits a proposal, together with a selective bibliography where applicable and the reactions of the document or thesis director, to the coordinator of graduate studies in music for approval by the graduate committee. Changes of topic or of document director after initial approval must be approved by the music graduate committee.

Graduate Recital (598-4) is supervised by a jury of at least 3 members, headed by the student's instructor in performance. This jury approves the level of literature to be performed and acceptability of the performance by means of an audition in advance of the final performance.

Comprehensive Examinations. During the final semester of study, and after completion of the document or thesis, the student will take comprehensive examinations dealing with general areas of music and concentrations of music study, and, when appropriate, with the student's thesis or document. Application to take comprehensive examinations must be made at the beginning of the student's last semester of study. The examinations must be passed in time to meet Graduate School deadlines. Application for comprehensive examinations may not be made until all other requirements, with the exception of terminal-semester courses, for the degree have been satisfied. A failed section of the comprehensive examinations may be taken again in a following term.

The oral examination committee, appointed by the coordinator of graduate studies in music, is headed by the student's document or thesis director with two or more faculty members with whom the student has had graduate level classes,

as requested by the student. If the student has scheduled 6 or more hours in a department other than music, a member of this department will be invited to serve on the examining committee. The examination committee will conduct the student's oral examination and will supply questions for the student's written examination.

Three copies of all theses, thesis-composition manuscripts, and tapes and documents must be submitted in final form to the music graduate office at least 5 weeks before the intended date of graduation, carrying the approval of all members of the student's graduation committee. The graduate coordinator will forward 1 copy of a student's document (2, if a thesis) to the Graduate School and retain 1 copy.

Courses (MUS)

Courses in this department may require the purchase of music literature and other incidental supplies.

400-1 to 2 (1,1) Performance Techniques. Individual instruction in any secondary applied field. Designed to provide added depth of preparation for teaching instrumental and vocal music. Prerequisite: completion of 340 level or the equivalent in some field of applied music.

401-1 to 12 (1 to 2 per semester) Opera Workshop. Open to all appropriately experienced singers, actors, dancers, instrumentalists and theater technicians. Study of opera/opera repertoire and performance techniques. Prerequisite: consent of the instructor.

402-1 to 12 (1 to 2 per semester) Musical Theater Workshop. Open to all appropriately experienced actors, singers, dancers, instrumentalists and theater technicians. Study of musical theater/musical revue repertoire and performance techniques. Prerequisite: consent of the instructor.

403-1 to 2 Lyric Theater Ensemble. A select group which performs operatic or musical theater literature, usually in the form of a fully mounted production each semester. Audition or consent of instructor. May be repeated for credit.

407-2 Modal Counterpoint. Study of Renaissance contrapuntal techniques. Extensive writing practice, and analysis of stylistic models. Prerequisite: 207.

410-2 Piano Pedagogy Practicum. Provides undergraduate and graduate piano pedagogy majors with the opportunity for supervised practice piano teaching. Course activities include lesson-planning, conducting and evaluating studio piano and class piano lessons, and a survey of important educational issues that impact on effective piano teaching. Prerequisite: consent of instructor.

421-2 Advanced Analysis. Structure, form, and design in music as the coherent organization of all of its factors. Analysis of works chosen from a variety of styles and genres. Prerequisite: 321.

440-1, 2, or 4 Applied Music. (Same as Music 040.) Offered at six levels in the areas listed below. May be repeated for credit as long as passing grade is maintained. Students must attend the weekly studio class and be concurrently enrolled in one of the performing groups. Prerequisite for 040: satisfactory completion of beginning class instruction offered in that area, or the equivalent. Prerequisite: for 140: three or more years of prior

study or performing experience, or two semesters of C or better at 040 level. Prerequisite: for 240, 340: two semesters of C or better at previous level, or consent of applied jury. Prerequisite: for 440, 540: two semesters of B or better at previous level, or consent of applied jury. Music majors and minors enroll for two credits on their principal instrument, taking one half-hour private lesson and studio class, Tuesdays at 10:00. Those with prior approval by their applied jury for the specialization in performance enroll for four credits, taking two half-hour private lessons and the student class each week. Non-music majors or minors, and those music majors taking a second instrument, enroll for one credit, taking one private or class lesson per week. Six hours of individual practice per week required for each lesson. For shorter sessions, credit is reduced or lesson time is increased proportionately.

- | | |
|---------------|----------------|
| a. Flute | l. Violin |
| b. Oboe | m. Viola |
| c. Clarinet | n. Cello |
| d. Bassoon | o. String bass |
| e. Saxophone | p. Voice |
| f. Horn | q. Piano |
| g. Trumpet | r. Organ |
| h. Trombone | s. Harpsichord |
| i. Baritone | t. Guitar |
| j. Tuba | u. Recorder |
| k. Percussion | v. Coaching |

447-4 (2,2) Electronic Music. (a) Introduction to classical studio equipment and techniques; use of voltage controlled equipment. Individual laboratory experience available. (b) Emphasis upon creative projects, more sophisticated sound experimentation, and analysis. Enrollment limited. Must be taken in a,b sequence. Prerequisite: 280 or consent of instructor.

453-2 to 4 (2 per semester) Advanced Topics in Choral Music. Practicum in the selection, rehearsal, and performance of appropriate literature. Study of techniques for achieving proficient performance and musical growth. For experienced teachers and advanced students.

454-2 to 4 (2 per semester) Advanced Topics in Instrumental Music. Practicum in the selection, rehearsal, and performance of appropriate literature. Study of techniques for achieving proficient performance and musical growth. Designed for experienced teachers and advanced students.

455-2 to 4 (2 per semester) Advanced Topics in Elementary School Music. Practicum in the selection and use of materials for the elementary school program. Study of techniques for achieving balanced musical growth. For experienced teachers and advanced students.

456-4 (2,2) Music for Exceptional Children. (a) Theories and techniques for therapeutic and recreational use of music with physically and mentally handicapped children. Includes keyboard, autoharp, guitar and tuned and untuned classroom instruments. (b) Applications for the gifted, emotionally disturbed, and culturally disadvantaged child. Take in sequence. Prerequisite: 302 or prior consent of instructor.

461-3 Applied Music Pedagogy. Specialized problems and techniques employed in studio teaching of any particular field of music performance. Study of music literature appropriate for the various levels of performance. Opportunity, as feasible, for supervised instruction of pupils. Meets with appropriate instructor, individually or in groups.

468-2 to 4 (2,2) Music Productions. Practicum in the techniques for staging operas and musicals.

470-3 History of Opera. The development of the music, libretti, and staging of opera from the late Renaissance to the present. Prerequisite: 357b, or consent of instructor.

471-3 History of Musical Theater. The development of the music, book, lyrics and staging practices of musical theater from its late 19th century beginnings to present, with a detailed study of selected contributors and their works. Prerequisite: 357b or consent of instructor.

472-2 Chamber Music Literature. A study of literature for the principal types of chamber music groups.

475-3 Baroque Music. The development of vocal and instrumental music in the period 1600-1750, from Monteverdi to Bach and Handel. Oratorio and Cantata, the influence of opera, sonata, suite and concerto. Prerequisite: 357a with a grade of C or better, or graduate standing.

476-3 Classical Music. Development of the sonata, symphony, concerto, and chamber music in the 18th and early 19th centuries, with emphasis on the music of Haydn, Mozart and Beethoven. Prerequisite: 357b with a grade of C or better, or graduate standing.

477-3 Romantic Music. Development of the symphony and sonata forms, chamber music, and vocal music in the 19th and early 20th centuries. Rise of nationalism and impressionism. Prerequisite: 357b with a grade of C or better, or graduate standing.

479-2 to 4 (2 per topic) Solo Performance Literature. Topics presented will depend upon the needs of students and upon instructors scheduled. (a) Piano literature, including an introductory study of harpsichord music; (b) Organ literature, in relation to the history of the instrument; (c) Song literature; (d) Guitar and lute literature; (e) Solo string literature; (f) Solo wind literature.

480-2 to 4 (2,2) Advanced Composition. Original composition involving the larger media. Individual instruction. Prerequisite: two semesters of 380 with a grade of C or better and approval of composition jury.

481-1 to 4 Readings in Music Theory. Assigned readings and reporting of materials pertaining to a particular phase of music theory in historical perspective. Approximately three hours' preparation per week per credit (adjusted for shorter sessions). Prerequisite: 321 and 322 or prior consent of instructor.

482-1 to 4 Readings in Music History and Literature. Assigned readings and reporting of materials pertaining to a particular phase of history or literature. Approximately three hours preparation per week per credit. Prerequisite: 357a and b, or prior consent of instructor.

483-1 to 4 Readings in Music Education. Assigned readings and reporting of materials pertaining to a particular phase of music education. Approximately three hours preparation per week per credit (adjusted for shorter sessions). Prerequisite: consent of instructor.

498-2 to 4 (2,2) Recital. Preparation and presentation of a full solo recital in any applied field. Prerequisite: prior or concurrent registration in 440 and approval of applied jury.

499-1 to 8 Independent Study. Original investigation of selected problems in music and music education with faculty guidance. Project planned to occupy approximately three hours preparation per week per credit (adjusted for shorter sessions). Not more than three hours toward 30 required for graduate degree. Prerequisite: prior consent of selected instructor.

500-1 to 6 Independent Investigation. An opportunity for the graduate student to investigate at an advanced level special interests outside the scope of normal course offerings. The student will select a member of the graduate faculty to guide and evaluate the work. Not more than three hours toward 30 required for graduate degree. Prerequisite: prior consent of the selected instructor and student's graduate adviser.

501-3 Music Bibliography and Research. Bibliographic materials for graduate study in music theory, history, education, and music performance. Practical experience in research techniques and scholarly writing style. Recommended to be taken during the first semester of graduate study. Required of all degree programs.

502-4 (2,2) Analytic Techniques. Analysis of representative works chosen from the Baroque, Classical, Romantic, and Modern eras. Prerequisite: graduate standing in music or prior consent of instructor.

503-3 Scientific Evaluation and Research in Music. Quantified research concepts and vocabulary; measurement theory and techniques for evaluating and testing musical aptitude and achievement; investigation of acoustical perception; survey of current scientific research in music. A research project is required.

509-2 History and Philosophy of Music Education. The evolution of school music and its changing relationship to the individual, to society and to the school curriculum.

510-6 (2,2,2) Piano Pedagogy Seminars. (a) Piano Technique. Provides an in-depth study of the three classic texts on the subject of piano technique and prepares students to deal with important aspects of piano technique in piano teaching. (b) Piano Literature. An extensive survey of baroque, classical, romantic and contemporary pi-

ano literature designed specifically to meet the needs of those pursuing professional careers as piano teachers. (c) Piano Music Analysis. Details the analytic and problem-solving techniques of piano performance study that are fundamental for teaching piano students of all ages and abilities.

535-2 Contemporary Idioms. An analysis of major compositional techniques since 1945. Prerequisite: 502b or consent of instructor.

540-1, 2, or 4 Applied Music. (See Music 440.)

545-3 Pedagogy of Music Theory. An orientation to the philosophy of theory with application to teaching techniques. Prerequisite: consent of instructor.

550-2 School Music Administration and Supervision. Study of the objectives and processes of music instruction. Administration roles in developing the means and ends of music instruction, and techniques employed for the improvement of instruction.

556-2 to 4 (2,2) Advanced Conducting. Individual or group study with appropriate instructor of choral, orchestral, or band literature. Practice in score reading, baton technique and interpretation. Opportunity to rehearse and conduct ensembles when feasible. Prerequisite: completion of an undergraduate conducting course with graduate standing in music, or consent of instructor.

566-1 to 12 (1 or 2 per semester) Ensemble. Participation required each semester enrolled (summer excepted) in one or more of the ensembles listed below. In addition, students may elect participation in other regularly scheduled ensembles. One credit per group: maximum of two credits for concurrent participation in two groups. (a) Marching Salukis. (b) Symphonic band. (c) Concert wind ensemble. (d) Symphony. (e) Choral union. (f) Concert choir. (g) Chamber singers. (h) Guitar ensemble. (i) Opera workshop.

573-3 Medieval Music. Music of the medieval world; Gregorian chant; the Tropes; secular songs of the troubadours and trouveres; the rise of polyphony; Ars Antiqua; organum and conductus; Ars Nova; Dunstable and English descant up to about 1450; types of notation. Prerequisite: for non-music majors: prior consent of instructor.

574-3 Renaissance Music. Burgundian and Netherlands music from 1450 and its spread; Isaac and Josquin; 16th Century polyphony in France, Germany, Spain, and England; the rise of music for instruments and for solo voices. Prerequisite:

uisite: for non-music majors; prior consent of instructor.

578-3 Twentieth Century Music. The heritage of 20th century music. Study and analysis of musical philosophies and techniques of post-impressionist and contemporary composers. Prerequisite: for non-music majors: prior consent of instructor.

580-2 to 4 (2,2) Graduate Composition. Composition in the larger forms for solo and ensemble performance. Prerequisite: 480 or prior consent of instructor.

595-2 Music Document. A written report presenting the history and style of works performed in graduate recital, Music 598, or other topic relating to the student's principal performing area or independent study project. Prerequisite: 501 and approval of topic by the music graduate committee. On recommendation of the composition faculty and with graduate committee approval, a piece of music composed by the student for performance in Music 598 may be substituted, accompanied by a written analysis.

598-4 Graduate Recital. Preparation and presentation of a full solo recital in any area of performance; or the preparation, rehearsal, and conducting of a full ensemble program or of the equivalent sections of several ensemble programs. Prerequisite: completion of at least four credits in 540 (or 556 for conductors) and the approval of the performance jury. The performance jury certifies the acceptability of the completed recital and the grade to the graduate committee.

599-2 to 6 Thesis. An intensive written study in the history, theory, teaching or philosophy of music; or the manuscript and parts (with tape recording when feasible) of a substantial musical composition or series of compositions accompanied by an analytical or explanatory document. Graded *S/U* or *DEF*. Prerequisite: 501 and prior approval of topic or proposal by thesis director and graduate committee in music.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Pharmacology

E-mail: dsmith@wpsmtp.siumed.edu

SCHOOL OF MEDICINE

Caspary, Donald M., Professor, Ph.D., (Springfield), New York University, 1971; 1973. Sensory physiology, neurophysiology, neuroanatomy, comparative physiology.

Dunaway, George A., Professor, Ph.D., (Springfield), University of Oklahoma, 1970; 1975. Regulation of energy/metabolism during diabetes; development and aging; induction of experimental ulcers in rats.

Faingold, Carl L., Professor and Chair, Ph.D., (Springfield), Northwestern University, 1970;

1972. Convulsive seizure mechanisms and effects of anticonvulsants; pharmacological alterations of cerebral evoked potentials.

Helfert, Robert, Professor, Ph.D., (Springfield), University of California, 1987; 1990. Cytoarchitecture, connections and transmitter specificity of the central auditory system; age-related changes in the cytoarchitecture and synaptic organization of the auditory and vestibular systems.

Lai, Chen-Ching, Assistant Professor, Ph.D., (Springfield), University of Wisconsin School of

Medicine, 1988; 1991. Molecular pharmacology of anticancer drug resistance; molecular aspect of carcinogenesis, mutagenesis, and teratogenesis.

Lee, Tony, J-F., Professor, Ph.D., (Springfield), West Virginia University, 1973; 1975. Neuromuscular transmission in cerebral blood vessels.

Naritoku, Dean, Associate Professor, M.D., (Springfield), Chicago Medical School, 1981; 1987. Mechanisms of epilepsy and seizure susceptibility, functional neuroanatomy of seizures, GABA receptor function, clinical pharmacology.

Ramkumar, Vickram, Associate Professor, Ph.D., (Springfield), University of Maryland, 1986; 1992. Molecular pharmacology of adenosine receptors in cardiovascular system.

Rybak, Leonard P., Professor, M.D., Ph.D., (Springfield), University of Minnesota, 1973; 1981. Investigation of mechanisms controlling ionic composition and resting potentials in the peripheral auditory apparatus using chinchilla model.

Somani, Satu, Professor, Ph.D., (Springfield), Liverpool University, England, 1969; 1974. Drug disposition.

Woods, W. Thomas, Professor, Ph.D., (Springfield), Wake Forest University, Bowman Gray School of Medicine; 1975; 1989. Cardiovascular cell biology, developmental biology, and cardiovascular pathophysiology.

Graduate courses of study leading to the Master of Science and Doctor of Philosophy degrees in pharmacology are offered by Southern Illinois University School of Medicine, Department of Pharmacology. To receive an advanced degree in Pharmacology, students must be admitted and fulfill the requirements of both the Graduate School and the pharmacology graduate program. Course offerings in the graduate program have been designed so that graduate students may acquire a broad basic knowledge as well as research experience in different areas of pharmacology. Graduate students may choose from a diversity of specializations when selecting a research adviser and a research topic. Excellent, well equipped research facilities allow the acquisition of a variety of techniques and methods.

The minimum requirements for admission to an advanced degree program in pharmacology are that all students must have an undergraduate degree in one of the biological sciences with at least one year of biology including physiology and a biochemistry course. Students may be admitted with deficiencies in these prerequisites, but they must remedy them at an accredited University which is approved by the Graduate School prior to completion of PHRM 550 a and b. Students with undergraduate training in related areas, such as chemistry, physics, mathematics, computer science, psychology, or engineering are strongly encouraged to consider graduate work in pharmacology.

Unrestricted admission into the master's program requires an undergraduate grade point average (GPA) of 3.0 ($A = 4.0$). For unrestricted admission into the doctoral program, a GPA of 3.25 ($A = 4.0$) on all course work is required. Specific requirements are described in the sections, "Specific Requirements for a Master of Science Degree in Pharmacology" and "Specific Requirements for a Doctoral Degree in Pharmacology."

In addition to the above general requirements, each applicant must submit *directly to the Department of Pharmacology*:

1. A completed application.
2. Original transcripts for all undergraduate and graduate coursework must be transmitted and received from each university or college attended by the applicant.
3. A brief (300–600 words) typed statement of goals and ambitions indicating why the applicant wishes to do graduate work in pharmacology.
4. Scores of the Graduate Record Examination (GRE) including scores on (a) the general and (b) one advanced section (biology or chemistry) taken within the past 12 months.
5. Three letters of recommendation from faculty who know the applicant's potential, written on forms supplied by the Department of Pharmacology.
6. International students must submit or request a copy of the TOEFL scores. The Department of Pharmacology and the Graduate School require a score of 550 or better on the TOEFL.

Equivalent course work completed at other institutions or in other collegiate units may be substituted for certain course requirements for graduate course work in pharmacology if approved by the pharmacology graduate program committee and the Graduate School. After receipt of all of the above requirements and approval by the Department of Pharmacology, the student's application and transcript are then transmitted to the Graduate School.

Retention

All retention rules will be met. Additional departmental requirements are described below.

Master's Degree. An overall GPA of 3.0 ($A = 4.0$) in all graduate work in the program is required for retention. Any grade below *B* in a pharmacology core course must be compensated for by retaking the course and earning an *A* or *B* grade.

Doctor of Philosophy Degree. An overall GPA of 3.0 ($A = 4.0$) in all graduate work in the program is required for retention. Any student who makes a grade below a *B* in a pharmacology core course with the exception of PHRM 501 will not be retained in the Ph.D. degree program of the Department of Pharmacology.

Financial Assistance

The pharmacology graduate program can offer financial assistance to applicants which are accepted into the program. Application for departmental fellowships is made directly to the Department of Pharmacology. Information and application forms for scholarships and loans may be obtained through the program director. Time limits for receiving support are governed by the Graduate School. Renewal of support is contingent upon satisfactory progress of the student in course work and research and upon time limitations for support.

Curriculum Requirements Common to the M.S. and Ph.D. Degrees in Pharmacology

Formal Courses. All graduate students are required to complete formal course work in 2 areas: (1) the M.S. or Ph.D. program core courses and (2) electives which are shown below:

Master's Program Core. PHRM 551, 550a, 550b, 501 (4 semester hours), 500 every semester on campus after completion of 4 semester hours of 501. Also, an additional 6 hours of advanced course work which are graded A–F are required and must include PHRM 555 and/or 574.

Doctoral Program Core. PHRM 551, 550a, 550b, 501 (4 semester hours), 500 every semester on campus after completion of 4 semester hours of 501, 555, 574 and one of the elective courses.

Elective Courses. Readings or Research in Pharmacology (PHRM 590), Geriatric Pharmacology (PHRM 560), Principles of Toxicology (PHRM 565), Advanced Cell Biology (MICR 530), Advanced Immunology (MICR 551), Cellular Immunology (MICR 552), Advanced Medical Microbiology/Immunology (MICR 553).

Maximum course work for full-time graduate students is 16 hours per semester; 12 hours is considered average. For a student with a half-time assistantship, 12 hours is the maximum, 6 hours is the minimum.

Research Tools. The research tool is an integral part of a research-oriented degree and is intended to enhance the student's ability to conduct a successful research career. All graduate students must acquire appropriate research tools as required by the Graduate School and the graduate student's dissertation/thesis

and research committee. Master's students are encouraged, but not required, to attain competence in at least one research tool, and doctoral students are required to attain competence in at least two research tools. Requirements for a research tool may be satisfied by establishing proficiency in statistics, computer sciences, electronics, advanced mathematics, electron microscopy, foreign language (Russian, German, or French), or a technique which is acceptable to the student's dissertation/thesis and research committee. The student should not expect to use courses which are required by the graduate program to meet a tool requirement. To satisfy the requirement for proficiency in a research tool, the student should be able to demonstrate directly that they have gained expertise in the area of the tool. Examples of satisfactory exhibition of expertise could be a course grade of at least a *B*, an *S* in a course graded by *S/U*, or a letter from a teacher who is acceptable to the graduate dissertation/thesis committee certifying to the student's mastery of the tool. Other examples that could be acceptable include publication of a paper or presentation of material which employs that expertise.

Student Advisement. An advisory system in pharmacology will help students in planning their program. Upon admission to the master's or doctoral program, students will be advised by the pharmacology graduate program director until a research adviser is chosen by the student. The programs outlined by students, their advisers, and thesis/dissertation committees are subject to approval of the pharmacology graduate program committee. Students should select their research adviser no later than the end of their second (master's) and third (doctoral) semester in residence. The choice of adviser, and subsequently the thesis/dissertation committee, is an important step and should be carefully considered.

Thesis or Dissertation Committee. As soon as possible, a graduate student must select a research adviser; and a thesis or dissertation committee should be selected. For a student in the master's program, the thesis committee will consist of a minimum of 4 members: the student's research adviser (chair), 2 graduate faculty members from pharmacology and 1 graduate faculty member from outside pharmacology. For a student in the doctoral program, the dissertation committee will consist of a minimum of 5 members: the student's research adviser (chair), 3 graduate faculty members from Pharmacology, and 1 graduate faculty member from outside pharmacology. Members of this committee should be able to contribute significantly to the area of the student's research program. The student's research adviser, through the chair of the Department of Pharmacology, will request approval of this committee by the dean of the Graduate School. The Chair of the Department of Pharmacology and the graduate program director are ex-officio members for all committees upon which they are not already members.

REQUIREMENTS FOR ADVANCED DEGREES IN PHARMACOLOGY

Specific Requirements for a Master of Science Degree in Pharmacology

GENERAL REQUIREMENTS

1. A minimum of 2 years of full-time study (1 year in residence) is required for a master's degree.
2. A total of 30 semester hours at the 400 and 500 level is required for a master's degree and at least 15 of these hours must be in 500-level courses. No less than 21 hours of graded (A–F) graduate coursework (400 and 500

level) with a cumulative GPA of 3.00 is required. No more than 6 hours of PHRM 599 may be taken for credit.

3. A written comprehensive examination must be passed with a grade of *B* or better. It will be prepared, conducted, and evaluated by the pharmacology graduate program committee and will be given each fall and spring semester, as needed. This examination will become a part of the student's permanent file.
4. Before significant research has begun, a thesis proposal is required. The thesis proposal will be presented in a pharmacology seminar. Immediately following the seminar, the proposal will be defended orally before the student's thesis committee. The cover sheet for the graduate student's thesis proposal must be signed by all members of the student's thesis committee and filed with the graduate program director.
5. A thesis must be completed in the student's research area of interest and receive approval of the student's thesis committee. The thesis is expected to be a competent, original research project carried out in a selected area under the research adviser's supervision. It should include a statement of the problem, an adequate review of literature, a careful analysis of results by whatever methods are appropriate, and an interpretation of the work by a significant source. The student must submit a preliminary draft of the thesis to the adviser at least 10 weeks prior to graduation. A corrected copy must be submitted to other members of the thesis committee no later than 8 weeks before graduation.
6. Results of the thesis research must be defended in a pharmacology seminar which must be announced at least one week in advance by sending out proper notices to the university community. Immediately following the seminar, an oral examination will be conducted by the student's thesis committee, and it will cover the thesis. Any member of the university community may attend this examination and may participate in the questioning and discussion, subject to reasonable time limitations imposed by the committee chair. Only committee members may vote or make recommendations concerning acceptance of the thesis and the oral examination.
7. The student will be recommended for the degree if members of the student's thesis committee judge both the thesis and the performance at the oral examination to be satisfactory. Evaluation forms will be completed by the student's thesis committee. If approved, a thesis approval form will be completed, signed by the student's major adviser and the chair of the Department of Pharmacology, and transmitted to the Graduate School. The examination may be repeated once, at least 3 months after the first examination. A second failure will result in dismissal from the pharmacology graduate program.
8. Each student is required to have 6 semester hours of PHRM 599, Thesis Research. Each student although having completed all course work and registered for the minimum of thesis research hours is required to remain registered until completion of the degree.
9. It is the student's responsibility to give 2 appropriate unbound copies of the thesis to the Graduate School. One bound copy should be provided to the Graduate Program Director and 1 to the adviser at least 3 weeks prior to graduation.
10. Below is a representative schedule of the requirements for the master's degree:

<i>First Year</i>	Credits
Summer Session	
PHRM 551 — Methods in Pharmacology	4
Fall Semester	

Choose Adviser and Formulate Thesis Committee

PHRM 500a — Principles of Pharmacology	4
PHRM 550b — Principles of Pharmacology	4
PHRM 501 — Introduction to Seminar	1
TOTAL	9

Spring Semester*Advanced Courses (6 semester hours) which include:*

PHRM 555 — Cardiovascular Pharmacology	
PHRM 574 — Neuropharmacology, or an	
Elective Course (Choose 2 of 3 options)	6
PHRM 599 — Thesis Research	2
PHRM 501 — Introduction to Seminar	1
TOTAL	9

*Second Year***Summer Session**

PHRM 501 — Introduction to Seminar	1
PHRM 599 — Thesis research	3
<i>Thesis Proposal Defense</i>	

Fall Semester

PHRM 501 — Introduction to Seminar	1
PHRM 599 — Thesis Research	4
<i>Written Comprehensive Exam</i>	

Continuing Semesters. Enroll in Thesis Research (PHRM 599) and Pharmacology Seminar (PHRM 500) and if necessary Continuing Enrollment (PHRM 601).

SUMMARY OF REQUIREMENTS FOR MASTER OF SCIENCE DEGREE

1. At least 21 hours of graduate courses with grades of A, B, or C
2. Achievement of a grade point average of at least a 3.0 (A = 4.0)
3. Completion of the research tools required by the thesis committee
4. Completion of 4 semester hours of PHRM 501 with a grade of B or better
5. Oral defense of thesis proposal
6. Comprehensive written exam of course work
7. Submission of thesis to adviser (10 weeks prior to graduation)
8. Corrected thesis to thesis committee (8 weeks prior to graduation)
9. Announcement of thesis defense (1 week prior notice)
10. Oral defense of thesis
11. Submission of approved thesis to Graduate School (2 copies), graduate program director (1 copy), and adviser (1 copy) 3 weeks prior to graduation
12. Submission of department clearance form

Specific Requirements for a Doctoral Degree in Pharmacology**GENERAL REQUIREMENTS**

1. Students entering the doctoral program in pharmacology should meet as a minimum the entrance requirements listed for the Master of Science degree program. In addition, it is strongly recommended that the doctoral student have completed calculus and physical chemistry. Students entering the doctoral program in pharmacology may choose to be admitted under 1 of 4 options: the post-master's option, a direct entry (post-baccalaureate) option, accelerated entry (from a master's program) option, or master's equivalency. International students must demonstrate verbal and written proficiency in English.
 - a. The *Post-Master's Entry Option* is offered to the student who has a master's degree, excelled academically, and plans to continue research and scholarly work in a chosen field. The Graduate School requires that

the student meets all general requirements for admission and has a GPA of 3.25 ($A = 4.0$).

- b. The *Direct-Entry (Post-Baccalaureate) Option* is offered to the outstanding post-baccalaureate student who has a high potential for independent doctoral level research, has clearly defined professional objectives, and fulfills all the general admission requirements of the doctoral program. To be admitted through the direct-entry option, the student must have the following: a cumulative undergraduate GPA of 3.25 ($A = 4.0$) for undergraduate course work in biology, chemistry, physics, and, mathematics beyond the freshman level and an outstanding score on the Graduate Record Examination (GRE) on (a) the general part, (b) the advanced part in biology, and (c) the advanced part in chemistry, physics, or mathematics.
 - c. The *Accelerated Entry Option* is designed for a student who has completed at least 2 semesters in the Master of Science degree program and makes a commitment to obtain a doctoral degree. This option is recommended by the master's student's thesis committee after a review of the student's credentials and eligibility has been established. To be eligible for this option, the committee must establish: that the student has attained a 3.25 ($A = 4.0$) GPA in graduate course work, that the student is prepared and able to conduct research at the doctoral level as evidenced through publications, presentations at meetings and seminars, or preparation and oral presentation of the research proposal, and that the student has letters of reference attesting to the student's ability and potential to perform doctoral research. Upon establishing the student's eligibility, the student's thesis committee will prepare a written review of the student's qualifications. Approval of the review must be given by the pharmacology graduate program committee and the chair of the Department of Pharmacology, who will then make recommendation to the Graduate School for waiver of the master's degree or master's equivalency before entry into the doctoral program.
 - d. The *Master's Equivalency Option* is also available to a student who has been in the master's degree program for 2 semesters and makes a commitment to a doctoral degree. master's equivalency may be obtained by preparing a research paper or successfully defending a research proposal supported by written documentation which is accepted by the student's thesis committee, the pharmacology graduate program committee, the chair of the Department of Pharmacology, and the Graduate School.
2. In addition to the courses required by the department, the elective course work requirements for the Ph.D. degree will be established by the student's dissertation committee in accordance with the requirements of the program.
 3. The Ph.D. degree may not be conferred less than 6 months nor more than 5 years after admission to candidacy, except upon approval of the dean of the Graduate School. The student is admitted to the Ph.D. degree candidacy after having completed the residency requirement, the research tools requirement, and the comprehensive written preliminary examination.
 4. A comprehensive written preliminary examination of course work must be passed with a grade of *B* or better. It will be prepared, conducted, and evaluated by the pharmacology graduate program committee and will be given each fall and spring semester as needed. This examination will become a part of the student's permanent file. The preliminary examination may be repeated only once at least 3 months after the examination. Required course work should be completed prior to this examination, but this examination should precede the greater part of the dissertation research.

5. Before significant research has begun and no later than 5 semesters (excluding summer sessions) after admission into the graduate program, defense of a dissertation proposal must be successfully completed. The dissertation proposal will be presented in written form to the student's thesis/dissertation committee and in a pharmacology seminar. Immediately following this seminar, the proposal will be defended orally before the student's dissertation committee. The cover sheet for the graduate student's dissertation proposal must be signed by all members of the student's dissertation committee and filed with the graduate program director. The dissertation is expected to be a competent, original research project which will make a significant contribution to the body of scientific knowledge. As such, it should be of sufficient quality to merit publication in a peer-reviewed journal. It should include a statement of the problem, an adequate review of literature, a careful analysis of results by whatever methods are appropriate, and an interpretation of the work.
6. The residency requirement for the doctorate must be fulfilled after admission to the doctoral program and before formal admission to doctoral candidacy. The residency requirement is satisfied by completion of 24 semester hours of graduate credit on campus as a doctoral student within a period of not to exceed 4 calendar years. A doctoral student will be permitted to count no more than 6 hours of Dissertation Research (PHRM 600) towards achieving the 24 semester hour residency requirement. To meet the residency requirement, students may enroll in any other course that they have not taken and meets with the approval of their adviser and dissertation committee, e.g. any formal departmental or non departmental courses, and Readings or Research in Current Pharmacological Topics (PHRM 590).
7. The Graduate School requires completion of the residency requirement before making application to candidacy. Admission to candidacy is granted by the dean of the Graduate School upon recommendation of the student's dissertation committee after the student has fulfilled the residency requirement for the doctoral degree, passed the comprehensive written preliminary examination and met the research tool requirement. The candidate must fulfill all degree requirements within a five-year period after admission to candidacy, or may be required to take another preliminary examination and be admitted to candidacy a second time.
8. After admission to candidacy, the student must complete 24 hours of dissertation credit, (PHRM 600), complete their dissertation research project, and prepare the dissertation document to meet the requirements of their dissertation committee and the Graduate School. A student who has completed all formal course work, dissertation and candidacy credit requirements but has not completed and defended the dissertation must continue to be registered until completion of the degree.
9. A preliminary draft of the dissertation should be given to the adviser at least 10 weeks prior to graduation, a corrected copy should be submitted to other committee members no later than 8 weeks before graduation.
10. Results of the dissertation research must be defended in a pharmacology seminar which must be announced at least 1 week in advance by sending out proper notice. Immediately following the pharmacology seminar, a final oral examination will be conducted covering the dissertation subject and other discipline related matters. Any member of the university community may attend the final oral examination and may participate in the questioning and discussion, subject to reasonable time limitations imposed by the committee chair. Only members of the committee may vote or make recommendations concerning acceptance of the dissertation and final examination. A student will be recommended for the degree if members of

the dissertation committee judge both the dissertation and the performance at the final examination to be satisfactory. Evaluation forms will be completed by the committee. If approved, a dissertation approval form will be completed, signed by the student's major adviser and the chair of the Department of Pharmacology, and submitted to the Graduate School. The examination may be repeated once, at least 3 months after the first examination. Failure of the second examination will result in dismissal from the pharmacology graduate program.

11. It is the student's responsibility to give 2 unbound copies of the dissertation to the Graduate School, along with an abstract of 600 words or less. One bound copy should be given to the graduate program director and one to the student's adviser at least 3 weeks prior to graduation. All dissertations will be microfilmed and there is a fee.
12. Below is a representative schedule of the requirements for the Ph.D. degree in pharmacology. Note that alternative scheduling will be necessary for those students who have accelerated entry from the master's program, or for those students who already have a Master of Science degree in pharmacology.

<i>First Year</i>	Credits
Summer Session	
PHRM 551 Methods in Pharmacology	4
Fall Semester	
<i>Choose Adviser and Formulate Dissertation Committee</i>	
PHRM 550a Principles of Pharmacology	4
PHRM 550b Principles of Pharmacology	4
PHRM 501 Introduction to Seminar	<u>1</u>
Total	9
Spring Semester	
PHRM 555 Cardiovascular Pharmacology	3
PHRM 574 Neuropharmacology	3
PHRM 501 Introduction to Seminar	1
Elective Course	<u>3</u>
Total	10
Summer Session	
PHRM 600 Dissertation Research or	
PHRM 590 Readings or Research in Pharmacology	<u>3</u>
Total	3
<i>Second Year</i>	
Fall Semester	
<i>Preliminary Exam</i>	
PHRM 590 Readings or Research in Pharmacology and/or	
PHRM 600 Dissertation Research	3
PHRM 501 Introduction to Seminar	<u>1</u>
Total	10
Spring Semester	
<i>Defense of Dissertation Proposal</i>	
<i>Completion of Tool Requirements</i>	
<i>Admission to Candidacy when eligible</i>	
PHRM 600 Dissertation Research	3
PHRM 501 Introduction to Seminar	1
PHRM 590 Readings or Research in Pharmacology and/or	
PHRM 600 Dissertation Research	<u>6</u>
Total	10

Summer Session

PHRM 590 Readings or Research in Pharmacology and/or

PHRM 600 Dissertation Research

Total

 $\frac{3}{3}$

Continuing Semesters. Enroll in Dissertation Research (PHRM 600) and Pharmacology Seminar (PHRM 500) and if necessary Continuing Enrollment (PHRM 601).

SUMMARY OF REQUIREMENTS FOR DOCTOR OF PHILOSOPHY DEGREE

1. Achievement of a grade point average of at least 3.25 ($A = 4.0$)
2. 24 semester hours residency
3. Completion of research tools required by dissertation committee
4. Comprehensive written preliminary exam of course work
5. Completion of 4 semester hours of PHRM 501 with a grade of *B* or better
6. Admission to candidacy
7. Oral defense of dissertation proposal
8. Submission of dissertation to adviser (10 weeks prior to graduation)
9. Corrected dissertation to dissertation committee (8 weeks prior to graduation)
10. Completion of an approved dissertation with 24 hours of dissertation credit
11. Announcement of dissertation defense (1 week prior notice)
12. Oral defense of dissertation
13. Submission of approved dissertation to Graduate School (2 copies), graduate program office (1 copy), and adviser (1 copy) 3 weeks prior to graduation
14. Submission of departmental clearance form
15. All dissertations shall be microfilmed and a fee is required.

(This program is currently under revision.)

Courses (PHRM)

500-1 to 16 Pharmacology Seminar. Presentation of research and current literature in pharmacology. Required of all graduate students in pharmacology after completion of four credit hours of 501. Requires presentation at a Journal Club session each fall semester and a formal seminar each spring semester for duration of registration. Graded *S/U* only. Prerequisite: 501. (Springfield only.)

501-1 to 4 (1 per semester). Training in interpretation of research and current literature in order to enhance quality of seminar presentation. Enrollment for the initial four semesters is required of all beginning pharmacology graduate students. All other pharmacology graduate students must enroll in 500. (Springfield only.)

550-8 (4,4) Principles of Pharmacology. A study of chemistry, pharmacodynamic actions, mechanisms of action, absorption, distribution, metabolism, elimination, adverse effects, interactions and toxic effects of drugs currently used in therapeutics. Three to five hours lecture, one to four hours discussion per week. Must be taken in sequence. Prerequisite: organic chemistry, biochemistry, basic courses in physiology, and Physiology 420a, b or equivalent are highly recommended, or consent of coordinator. (Springfield only.)

551-4 Methods in Pharmacology. The main objective is to acquaint the student with various sophisticated laboratory equipment, basic techniques/principles of pharmacological experiments.

One hour lecture and three hours laboratory twice weekly. This course is prerequisite to all advanced pharmacology courses. (Springfield only.)

552-3 Applied Statistics for the Basic Sciences. This course reviews introductory statistics and focuses on advanced statistics, linear and nonlinear modelling, applicable to basic biomedical sciences. The course will also provide students with experience in the use of statistical package computer programs for data analysis. Prerequisite: a college level introductory statistics course or permission from the instructor.

555-3 Cardiovascular Pharmacology. A study of structure, biochemistry, electrophysiology, and neurogenic and humoral regulation of the cardiovascular system in normal and diseased states. Three hours of lecture per week. Prerequisite: 550a,b or equivalent, or consent of course coordinator. (Springfield only.)

560-3 Geriatric Pharmacology. A study covering age-related changes in the physiology of particular organ systems which lead to the prevalence of many diseases and to altered drug action in the elderly. Research issues in aging will be discussed emphasizing the biological substrates of altered pharmacodynamics and pharmacokinetics in the aged. Prerequisite: 550a,b and consent of course coordinator. (Springfield only.)

565-3 Principles of Toxicology. This course deals with principles and understanding of phenomena of chemical-biologic interactions; a study

of adverse chemical effects on living organisms and risk that chemical exposure poses to man/environment; deleterious, acute, chronic chemical effects on specific organs, tests to predict risks, facilitate search for safer chemicals and drugs and means of rational treatment of manifestations of toxicity; prominent discussion on drugs, medical devices, food additives, pesticides; regulation of toxic chemicals, hazardous wastes, toxic pollutants in water and air; and emphasis on diseases caused by and uniquely associated with drugs, diagnosis and treatments of such intoxicants. (Springfield only.)

574-3 Neuropharmacology. (Same as Physiology 574.) A detailed examination of the biochemical aspects of neuropharmacology with emphasis on neurotransmitters; their synthesis, storage, release and metabolism in the central and peripheral nervous system. Considerable emphasis is placed on major research developments (both past and present) that influence how one studies the action of drugs on the nervous system. Prerequisite: Physiology 410 and Chemistry 451.

590-1 to 24 Readings or Research in Current Pharmacological Topics. By special arrangement with the instructor with whom the student wishes to work. Graded *S/U* only.

599-1 to 6 Thesis Research. Research for thesis for a Master's degree. Hours and credit to be arranged by chair and adviser.

600-1 to 32 (1 to 12 per semester) Dissertation Research. Research for dissertation for the Ph.D. degree. Hours and credit to be arranged by chair and adviser.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Philosophy

E-mail: phildept@siu.edu

COLLEGE OF LIBERAL ARTS

Alexander, Thomas, Professor, Ph.D., Emory University, 1984; 1985. American philosophy, classical philosophy, aesthetics, Dewey.

Black, Andrew, Assistant Professor, Ph.D., University of Massachusetts, 1992; 1991. Early modern philosophy, logic, and Leibniz.

Clarke, David S., Jr., Professor, *Emeritus*, Ph.D., Emory University, 1964; 1966.

Diefenbeck, James A., Professor, *Emeritus*, Ph.D., Harvard University, 1950; 1950.

Eames, Elizabeth R., Professor, *Emerita*, Ph.D., Bryn Mawr College, 1951; 1963.

Gaskill, Thomas E., Assistant Professor, Ph.D., Vanderbilt University, 1992; 1993. Asian philosophy, medieval.

Gatens-Robinson, Eugenie, Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1983; 1974. History and philosophy of science, epistemology, feminism.

Gillan, Garth J., Professor, Ph.D., Duquesne University, 1966; 1969. Critical theory, continental philosophy.

Hahn, Lewis E., Professor, *Emeritus* and Editor of Library of Living Philosophers, Ph.D., University of California, 1939.

Hahn, Robert, Associate Professor, Yale University, 1976; 1982. Greek philosophy, philosophy and history of science, Kant.

Hickman, Larry A., Professor, Ph.D., University of Texas at Austin, 1971; 1993. American philosophy, philosophy of technology.

Howie, John, Professor, *Emeritus*, Ph.D., Boston University, 1965; 1966.

Kelly, Matthew J., Associate Professor, *Emeritus*, Ph.D., University of Notre Dame, 1963; 1966.

Manfredi, Pat A., Assistant Professor, Ph.D., University of Notre Dame, 1983; 1994. Philosophy of mind, epistemology, metaphysics, recent analytic philosophy.

Plochmann, George Kimball, Professor, *Emeritus*, Ph.D., University of Chicago, 1950; 1949.

Schedler, George, Professor, Ph.D., University of California, San Diego, 1973; 1973. Philosophy of law, ethics, social philosophy.

Steinbock, Anthony J., Associate Professor, Ph.D., State University of New York, Stony Brook, 1993; 1995. Contemporary French and German philosophy, recent European philosophy, 19th century philosophy.

Stickers, Kenneth W., Professor and Chair, Ph.D., DePaul University, 1982; 1997. American philosophy, continental philosophy, ethics, Scheler, James.

Summerfield, Donna M., Associate Professor, Ph.D., University of Notre Dame, 1984; 1990. Wittgenstein, epistemology, analytic philosophy.

Tyman, Stephen, Associate Professor, Ph.D., University of Toronto, 1980; 1980. Eighteenth and 19th century European philosophy, phenomenology, existentialism.

The Department of Philosophy offers a wide range of advanced courses in the major areas within the field leading to the M.A. and Ph.D. degrees. Students are offered a diversified curriculum not dominated by one school of thought or method of approach. The broad range of specializations represented by the faculty exposes students to a variety of aspects of philosophy and at the same time permits them to concentrate on their own particular area of interest. Graduate-

level courses in such allied fields as the natural and social sciences, the arts, linguistics, law, and women's studies offer supplements to the philosophy curriculum.

Graduate courses in philosophy may be used as a minor in programs leading to the Master of Arts or Master of Science in Education degrees. Students who do not plan to continue work in philosophy beyond the master's degree level are encouraged to elect a graduate minor or to combine philosophy with another subject in a 40-hour double major.

All graduate students in philosophy are expected to have some supervised experience in teaching basic work in the field, either through regular teaching assistantships or through special assignments. Opportunities for intern experience at area junior or community colleges are made available.

Admission

Admission to the philosophy graduate program requires the following:

1. An application form to be sent to the department. A non-refundable application fee of \$20.00 must be submitted with the application. Attach your check or money order, payable to Southern Illinois University, to the top of the application form. Do not send cash. Only checks or money orders payable to United States banks will be accepted.
2. Official transcripts of each school attended to be sent to the department.
3. A sample of written work, e.g., a term paper written for an undergraduate or graduate philosophy class, to be sent to the department's director of graduate studies.
4. Three letters of recommendation from individuals familiar with the student's work should be requested by the applicant to be sent to the department's director of graduate studies.
5. Graduate Record Examination verbal and quantitative scores are requested but not required to be submitted to the department. They are required for those applying for fellowships. TOEFL scores of at least 550 are required for all foreign students. These scores should be sent directly to the department. Scores for the Test of Spoken English are strongly recommended for foreign students applying for teaching assistantships.

The department expects an applicant for admission to its graduate program to have had at least 15 semester hours in philosophy or closely related theoretical subjects, including at least one semester in ethics, one in logic, and a year in the history of philosophy. The department may waive a portion of this requirement in favor of maturity and of quality of breadth of academic experience. Applicants will be required to make up serious background deficiencies by taking appropriate undergraduate philosophy courses without credit.

Application for financial assistance is made by filling out a financial assistance form. Applicants for Graduate School and Morris Fellowships should send these applications to the department by February 1 of the academic year preceding that for which application is made. Applications for departmental graduate assistantships should be sent to the department by April 1 of that year.

Entry into the Ph.D. Program. There are two routes by which a student may enter the doctoral program. The standard one is by completion of an M.A. degree in philosophy at an accredited institution. There is also one alternative available in special circumstances.

Accelerated Entry. After at least one semester in residence, a student enrolled in the M.A. program may petition the department's faculty for accelerated entry into the Ph.D. program. Such entry is permitted only in special circumstances where a student has completed the equivalent of an M.A. degree at another in-

stitution or has exhibited some other special qualifications (e.g. papers and publications) for the research or creative activities of doctoral-level study.

Master of Arts Degree

The department's M.A. degree program is designed both for students wishing to continue on for a Ph.D. degree and those who plan to receive a terminal master's degree. For the latter students a minor concentration of up to 9 semester hours outside philosophy is permitted, subject to approval by the director of graduate studies. In order to receive the M.A. degree the student must fulfill the following requirements:

1. Complete 30 semester hours of course work in philosophy or allied fields, 6 of which may be credited toward preparation of a thesis.
2. Demonstrate competence in formal logic during the first year of residence either through appropriate course work or by passing with a grade of *B* or better an examination equivalent to the Philosophy 420 final suitably supplemented with additional materials on Aristotelian logic.
3. Pass an M.A. comprehensive examination on the history of philosophy to be taken no later than in the fall semester of the student's second year of graduate work.
4. Demonstrate reading knowledge of one foreign language by passing with a grade of *B* or better the appropriate 488 language courses or passing an examination offered through the Department of Philosophy, or by fulfilling the terms of some alternative agreement with the director of graduate studies. This course does not count towards the fulfillment of 1 above.
5. Fulfill a research writing requirement by either: a) writing an M.A. thesis of approximately 50 pages; or b) submitting 3 edited research papers written in conjunction with graduate seminars. This requirement should normally be met no later than one's second year of residence. The candidate for the M.A. degree will take an oral examination conducted by a 3 member faculty committee on the research subject.

Doctor of Philosophy Degree

The Ph.D. degree in philosophy is designed to prepare students for college teaching and for research in their field of study. In order to receive the Ph.D. degree the student must fulfill the following requirements:

1. Complete 30 semester hours of course work in philosophy or allied fields beyond the M.A. degree.
2. Demonstrate competence in formal logic during the first year of residence as required for the M.A. degree.
3. Demonstrate a background in the history of philosophy by passing the department's M.A. comprehensive examination on the history of philosophy. Incoming doctoral students will be expected to take this examination within the first year after entering the Ph.D. program.
4. Fulfill a research tool requirement in one of the following ways: a) demonstrating a reading knowledge of 2 foreign languages by passing the appropriate 488 language courses with grades of *B* or better; b) showing an appropriately higher proficiency in 1 language; or c) demonstrating a reading knowledge of 1 foreign language and completing satisfactorily at least 2 courses at the graduate level in an outside area approved by the director of graduate studies, or, through some alternative arrangement with the director of graduate studies. Neither these courses nor the 488 courses referred to in a) count toward the fulfillment of 1 above.
5. Pass a written preliminary examination on the following 4 areas: metaphysics and philosophy of religion; epistemology and philosophy of science; value studies (ethics, social philosophy, and aesthetics); and an area of his-

torical specialization. This examination will normally be taken only after the student has accumulated at least 24 hours of credit beyond the M.A. degree.

6. Write a doctoral dissertation under the supervision of a faculty dissertation committee. This dissertation is started only after the student has completed 30 hours of course work beyond the M.A. degree and has been admitted to candidacy for the Ph.D. degree. The student's dissertation proposal must first be approved by his dissertation committee. The student must complete at least 24 hours of Philosophy 600 for dissertation hours credit. Upon completion of the dissertation, the student is given an oral examination on it and related topics. Should a student fail to complete the dissertation within 5 years after admittance to candidacy, the student may be required to take an oral examination (usually administered by the internal members of the dissertation committee) to be admitted to candidacy a second time.

Courses (PHIL)

400-3 Philosophy of Mind. An investigation of the philosophic issues raised by several competing theories of mind, focusing on the fundamental debate between reductionistic accounts (e.g., central state materialism, identity theories of the physical and mental) and views which reject such proposed reductions. Traditional and contemporary theories will be examined. Designed for students in the life and social sciences with little or no background in philosophy as well as philosophy students.

415-3 Logic of Social Sciences. (Same as Sociology 415.) An examination of the theoretical structure and nature of the social sciences and their epistemological foundations. The relationship of social theory to social criticism; theory and praxis. Historical experience and social objectivity. Social theory as practical knowledge.

420-3 Symbolic Logic. Survey of basic concepts, decision procedures and proof techniques of modern symbolic logic.

425-3 Philosophy of Language. (Same as Speech Communication 465 and Linguistics 425.) An investigation into the way in which language is based on the nature of human cognitive structures, including metaphor, prototypes, frames and various kinds of imaginative structure. Central topics include the grounding of meaning and conceptual structure in bodily experience, the role of imagination in reasoning, and the metaphorical nature of thought.

435-9 (3,3,3) Philosophy of Science. (a) Philosophy of science. Critical survey of influential description of scientific methods and theory construction. Topics include the relationship between observation and theory confirmation, explanation, prediction, theory of change and discovery, view of scientific rationality. Historical cases will serve to focus the discussion. (b) Philosophy of special sciences. This course will focus on philosophical issues within a specific science such as biology, physics or psychology. Theory, method and historical development of the specific science will be examined. (c) Special topics in the philosophy of science. This course will provide a detailed focus on specific orientation or topic relevant to philosophy of science. Topics would include naturalized epistemology, evolutionary epistemology, history

and philosophy of science, feminist epistemology, modern science and philosophy of nature.

441-3 Philosophy of Politics. (Same as Political Science 403.) The theory of political and social foundations; the theory of the state, justice and revolution. Classical and contemporary readings such as: Plato, Aristotle, Hobbes, Locke, Rousseau, Marx, Dewey, Adorno and others. Prerequisite: 340 or Philosophy 102 or consent of instructor.

443-3 Philosophy of History. The rise of historical objectivity and the science of history. Classical and modern theories of history. History as the foundation of social knowledge. The critique of history as universal perspective. Prerequisite: consent of instructor.

446-3 Philosophical Perspectives on Women. (Same as Women's Studies 456.) Discussion of contemporary views of women and social issues from a feminist perspective.

460-3 Philosophy of Art. We will examine several important theories that define art by focusing in on only one aspect, for example, imitation, expression, form, institutional setting or even indefinability. What role does imagination play in each of these accounts, and does this tell us something important about how people experience their world?

468-9 (3,3,3) Kant. (a) First critique; (b) Theory of morality; (c) Aesthetic theory.

469-3 Hellenistic and Roman Philosophy to Augustine. The career of philosophy during the Hellenistic, Roman and Early Medieval Period, especially as a means of personal salvation exploring such figures and movements as: Epicurus, Stoicism, the Middle Academy, Skepticism, Gnosticism, Plotinus, Early Christianity, Augustine and Boethius. Prerequisite: 304 or consent of instructor.

470-6 (3,3) Greek Philosophy. (a) Plato. A general survey of the Platonic dialogues from the Socratic period through the middle, with some selections from the Late period. Such Dialogues will be emphasized as: Protagoras, Gorgias, Euthydemus, Charmides, Meno, Phaedo, Symposium, Republic, Phaedrus, Sophist and Timaeus. (b) Aristotle. A general survey of the Aristotelian philosophy including his theory of nature, metaphysics, ethics

and political philosophy. Readings will consist of selections from the corpus. Prerequisite: 304 or consent of instructor.

471-3 Medieval Philosophy. An examination of the synthesis of Greek philosophy with Christian religion and with Judeo-Islamicate philosophical traditions, exploring such figures as Augustine, Boethius, Avicenna, Averroes, Abelard, Maimonides, Thomas Aquinas, Duns Scotus, Ockham and Cusanus. Prerequisite: 304 or consent of instructor.

472-6 (3,3) The Rationalists. (a) Descartes. A study of the Philosophy of Rene Descartes, concentrating on his major writings, *Meditations*, *Discourse on the Method*, and *Principles of Philosophy*, as well as his philosophical correspondence. May include study of Descartes's relation to the later Rationalists. (b) Study of the philosophy of one or more of Spinoza, Leibniz, Arnauld, Malebranche, Wolff. May include study of the relation of these philosophers to Descartes. Prerequisite: 205 or consent of instructor.

473-6 (3,3) The Empiricists. (a) Locke; (b) Hume. Study of the principles of British empiricism as represented by either (a) Locke or (b) Hume. May also include study of Berkeley. Prerequisite: 305 or consent of instructor.

474-12 (3,3,3,3) 19th Century Philosophers. (a) Hegel; (b) Kierkegaard; (c) Marx; (d) Nietzsche. Prerequisite: 306 or consent of instructor.

475-3 Topics in Asian Philosophy. Extended examination of one or two major texts, figures or philosophical schools in Asian philosophy. Topics vary; students are advised to consult with the instructor.

476-3 Islamicate Philosophy. An examination of several major philosophical traditions or figures in the Islamicate world, such as Ibn Sina, al-Ghazzali, Mulla Sadra and Sufism, with an emphasis on their social and historical contexts.

477-3 Indian Philosophy. An examination of several major traditions and texts of Indian philosophy, such as Vedanta, Nyaya, the *Upanishads*, the *Bhagava Gita*, and contemporary political philosophy, with an emphasis on their social and historical contexts.

478-3 Buddhist Philosophy. An examination of several major philosophical traditions or figures in Buddhism, such as Madhyamika, Zen, Mind-Only, and the Kyoto school, with an emphasis on their social and historical contexts.

479-3 Chinese Philosophy. An examination of several major traditions of Chinese philosophy, such as Confucianism, Taoism, Neoconfucianism, Mohism, and Maoism, with an emphasis on their social and historical contexts.

480-3 History of Analytic Philosophy. An introduction to the works of several major 20th century philosophers in the analytic tradition, including several of the following: Frege, Russell, Moore, Wittgenstein (early and later), members of the Vienna Circle, Ayer, Ryle, Quine, Putnam, Davidson. Includes discussion of challenges to the tradition that have developed within it.

482-3 Recent European Philosophy. Philosophical trends in Europe from the end of the 19th Century to the present. Phenomenology, existentialism, the new Marxism, structuralism and other developments. Language, history, culture and politics.

486-3 Early American Philosophy. From the Colonial Era to the Eve of World War I. This course will trace the transplantation of European philosophy to the New World and watch its unique process of development. Movements such as Puritanism, the theory of the American Revolution, the philosophical basis of the Constitution, transcendentalism, idealism, Darwinism and pragmatism and such figures as: Jonathan Edwards, Thomas Jefferson, James Madison, Ralph Waldo Emerson, Josiah Royce, Charles Sanders Peirce and William James.

487-3 Recent American Philosophy. From World War I to the present. The major American philosophers of the 20th Century, covering such issues as naturalism, emergentism, process philosophy, logical analysis and neopragmatism. Figures include: John Dewey, George Herbert Mead, George Santayana, Alfred N. Whitehead, C.I. Lewis, W.O. Quine and Richard Rorty.

490-1 to 8 Special Problems. Hours and credits to be arranged. Courses for qualified students who need to pursue certain topics further than regularly titled courses permit. Special topics announced from time to time. Students are invited to suggest topics. Prerequisite: consent of department.

500-3 Metaphysics. Recent writers and current problems in metaphysics.

501-3 Philosophy of Religion. Analysis of a problem in philosophical theology or the phenomenology of religion or of the work of a particular thinker.

505-3 Theology and Philosophy. Topics taken from the exchanges between theology and philosophy in the modern period: natural theology and atheism, the metaphysics of being and God, ethics of reason and faith, secular and salvation history, politics and liberation theology, reason and faith in cross-cultural contexts, hermeneutics and epistemology. Prerequisite: preparation in theology and philosophy; consent of the instructor.

510-3 Problems of the Person. Discussion of metaphysical questions surrounding persons and their bodies. The particular focus of the seminar will vary as follows: (a) Intentionality, (b) Consciousness, (c) Freedom, (d) The self. Prerequisite: 400 recommended.

520-3 Philosophy of Logic. Topics in logic, with emphasis on issues in the philosophy of logic such as the status of modal logics and three-valued logics.

524-3 Contemporary Analytic Philosophy. A detailed examination of one or more issues of concern to contemporary philosophers in the analytic tradition. Possible topics include: the nature of intentionality; the possibility of priori knowledge; response to skepticism/relativism; virtue-based approaches to ethics and epistemology.

530-3 Theory of Knowledge. An examination of 20th Century trends in epistemology, including one or more of the following: traditional foundationalism and its demise; contemporary theories of knowledge and justification; skepticism and contemporary response to it; the possibility of a prior knowledge.

542-3 Political and Legal Philosophy. Relations of law, morality, and politics, and consideration of problems and issues in philosophy of law.

545-3 Ethics. An examination of the fundamental assumptions underlying twentieth century British and American moral theory. Special attention is given to recent attempts to develop a psychologically realistic moral philosophy that avoids both moral absolutism and extreme forms of relativism.

560-3 Aesthetics. Selected topics or writings.

562-3 Philosophy of Human Communication. (See Speech Communication 562.)

570-3 American Idealism. One or more American idealists. Recent seminars have been devoted to the thought of Brand Blanshard and Peter A. Bertocci.

575-30 (3,3,3,3,3,3,3,3,3,3) Contemporary Continental Philosophy. (a) Husserl. Constitutes an introduction to phenomenology as it was practice by the originator of the modern movement. Special attention to the role of the transcendental reduction and other methodological issues. Consideration given to the influence that Husserl has had upon subsequent developments in phenomenology. (b) Heidegger. Concentrates on the specific development of Heideggerian phenomenology as evidenced in his early writings and transformed in his later. Special attention to the problems of time, ontology, language and the project of the destruction of the history of metaphysics. (c) Sartre. Focuses on the contribution phenomenology and existentialism made by the leading synthesizer of these two movements. Special attention to problems of imagination, affectivity, dialectic and ontology, as well as social and political questions. (d) Merleau-Ponty. Concentrates on Merleau-Ponty's work in extending phenomenology into the region of lived and embodied experience. Special attention to the problem of embodiment, the question of lived time and lived space, as well as issues of the theory of signs and language. (e) Ricoeur. Concentrates on the analysis of selective texts of Paul Ricoeur from his early philosophy of the will to his later writings on metaphor and time: *Symbolism of Evil*, *On Metaphor*, *Time and Narrative*. (f) Foucault. An analysis of the relationship between power and knowledge in *Discipline and Punish* and *The History of Truth*. (g) Derrida. Examines texts from *On Grammatology* to *Truth in Painting*. Course focuses upon epistemological and metaphysical consequences of deconstruction. (h) Lyotard. Main interest of the course is the epistemological and ethical consequences of the debate about post-modernism in *Knowledge and the Postmodern Condition* and *The Differend*. (i) Adorno. An examination of history, language, ethics and politics in the major writings of Theodor Adorno: *The Negative Dialectic* and *Aesthetic Theory*. (j) Habermas. An examination of the foundations of universal pragmatics in *The Theory of Communicative Action* and related earlier texts.

577-6 (3,3) Classical American Philosophy. (a) Peirce and James. This course will focus on various aspects of the philosophies of Charles Sanders Peirce and William James. Such topics

as the critique of Cartesianism, pragmatism, semiotics, evolutionary metaphysics, radical empiricism and the will to believe will be covered. (b) Dewey and Mead. This course will focus on the thought of John Dewey and George Herbert Mead, focusing upon such themes as the influence of Darwin, the organism-environment circuit, nature and experience, aesthetic experience, the social self and descriptive metaphysics.

580-3 The Pre-Socratics. The emergence of Greek philosophy in the sixth century B.C., the Milesians, Heraclitus and the Pythagoreans; the Eleatic movement and Parmenides, and the critical systems of Empedocles, Anaxagoras, and atomism; concluding with a discussion of the Sophistic movement and Socrates. Epic, lyric and dramatic literature of the period may be examined as well as philosophical writings.

581-3 Plato. Through study of selected dialogues and reconstruction of Plato's system as a whole. Discussions and reports.

582-3 Aristotle. Intensive reading on several texts, analyzing selected portions of Aristotle's thought.

586-3 Wittgenstein. A critical examination of (a) The early work of the Austrian philosopher Ludwig Wittgenstein and his precursors and/or (b) The later work of Wittgenstein and his impact on contemporary analytic philosophy. Emphasis on (a) *The Tractatus Logico-Philosophicus* and/or (b) *The Philosophical Investigations*. Includes discussion of some of the following: the picture theory of representation; the doctrine of showing; the relationship of thought and language; ethics and the mystical; the early Wittgenstein's importance and influence; Wittgenstein's later criticisms of his early work; the possibility of rule-following; private language; meaning, use and language-games; the later Wittgenstein's importance and influence.

587-3 Kant.

588-3 Hegel.

590-2 to 12 (2 to 4 per topic) General Graduate Seminar. Selected topics or problems in philosophy.

591-1 to 16 Readings in Philosophy. Supervised readings for qualified students. Prerequisite: students must have written permission from the graduate director to register for more than six hours at each level.

599-2 to 6 Thesis. Minimum of four hours to be counted towards a Master's degree.

600-3 to 32 (1 to 16 per semester) Dissertation.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Physical Education

E-mail: knowlton@siu.edu

COLLEGE OF EDUCATION

Ackerman, Kenneth, Assistant Professor, *Emeritus*, M.A., Michigan State University, 1959; 1969.

Becque, M. Daniel, Associate Professor, Ph.D., University of Michigan, 1988; 1990. Exercise physiology.

Blinde, Elaine M., Associate Professor, Ph.D., University of Illinois, 1987; 1987. Social-psychology of sport.

Brechtelsbauer, Kay, Assistant Professor, Ph.D., Southern Illinois University at Carbondale, 1980; 1965. Motor behavior.

Carroll, Peter, Assistant Professor, Ph.D., Pennsylvania State University, 1970; 1969. Pedagogy.

Duncan, Glen, Assistant Professor, Ph.D., University of Tennessee, 1997; Exercise physiology.

Good, Larry, Associate Professor, *Emeritus*, Ed.D., Temple University, 1968; 1967.

Knowlton, Ronald, Professor and *Chair*, Ph.D., University of Illinois, 1961; 1961. Exercise physiology.

McCallister, Sarah, Assistant Professor, Ed.D., University of Arkansas, 1989; 1995. Sport management and sport psychology.

Potter, Marjorie Bond, Professor, *Emerita*, Ph.D., University of Southern California, 1958; 1961.

Scott, David, Assistant Professor, Ed.D., University of Northern Colorado, 1997, Sport management.

Shea, Edward, Professor, *Emeritus*, Ph.D., New York University, 1955; 1954.

Stotlar, John, Associate Professor, *Emeritus*, D.P.Ed., Indiana University, 1954; 1948.

Thorpe, JoAnne Lee, Professor, *Emerita*, Ph.D., Texas Woman's University, 1964; 1958.

West, Charlotte, Professor, Ph.D., University of Wisconsin, 1969; 1957. Sports management.

Wilson, Donna, Assistant Professor, M.F.A., University of Oklahoma, 1975; 1987. Dance.

Zimmerman, Helen, Professor, *Emerita*, Ph.D., University of Wisconsin, 1951; 1952.

Graduate courses in physical education are offered toward the Master of Science in Education degree with a major in physical education.

The minimum number of hours required in physical education at the master's level is 24. The total number of hours required for the master's degree is a minimum of 30 semester hours.

Master's Degree

The departmental requirements for unconditional admission as a master's degree candidate are:

1. Fulfillment of the requirements for admission to the Graduate School.
2. Presentation of an undergraduate course in kinesiology, physiology of exercise, human anatomy, motor learning, measurement and evaluation, and at least one in educational psychology or psychology of the particular field of the student's specialty. Appeals may be made within the special program areas.
3. Graduate Record Examination (GRE) scores.
4. A non-refundable application fee of \$20.00 must be submitted with the application. Attach your check or money order, payable to Southern Illinois University, to the top of the application form. Do not send cash. Only checks or money orders payable to United States banks will be accepted.

A student may be conditionally admitted to the program and may be permitted to do graduate course work while removing undergraduate deficiencies.

Requests for transfer of credits from other institutions will be considered by the department only before the completion of the first term of enrollment.

Requirements

The following required courses common to all concentrations are PE 500, 501, and either 592 or 599. The courses are designed to provide common experiences to all students regardless of their specialization. For 599 two bound copies are deposited with the department. Two unbound copies are deposited with the Graduate School.

Courses (PE)

Courses in this department may require the purchase of supplemental materials.

407-2 Advanced Theory and Techniques in the Prevention and Rehabilitation of Athletic Injuries. The application of scientific principles to the theoretical and practical methods of preventing and treating athletic injuries. Prerequisite: Basic Athletic Training Course.

408-2 Physical Fitness: Its Role and Application in Education. An analysis of physical fitness as it relates to the total well-being of people. Specific units on the fitness parameters, hypokinetic disease and physical inactivity, stress, current level of fitness, training programs and the beneficial aspects of regular exercise. Major emphasis is placed upon incorporating current thinking on physical fitness into the development of teaching models.

409-3 Social Aspects of Sport and Physical Activity. This course presents the theoretical and empirical foundations of sport sociology. A research-based approach is used to explore the relationship of sport to various social institutions, as well as the role of social processes (e.g., socialization, discrimination, stratification, conflict) in sport and physical activity contexts.

410-3 Psychological Aspects of Sport and Physical Activity. This survey course presents the theoretical and empirical foundations of sport psychology. Operating from a conceptual rather than an applied framework, the class develops an understanding of social psychological phenomenon and processes related to participation in sport and physical activity (e.g., personality, anxiety, arousal, achievement motivation, social facilitation, aggression, pro-social behavior, group dynamics.)

412-3 Research and Practice in Applied Sport Psychology. This course examines current research and practice in applied sport psychology. Emphasis will be placed on moving from theory into practice on sport-specific individual differences, motivational approaches and interventions.

415-3 Foundations of Sport and Fitness Management. An introduction to broad concepts and issues regarding the management of health clubs, corporate fitness programs; and various components of amateur and professional sport organizations. Students will investigate foundational aspects of sport and fitness management, examine requirements for operating successful programs, and gain insight into various career opportunities.

418-2 Administration of Aquatics. The study of comprehensive aquatic programs, their implementation and coordination.

420-3 Physiological Effects of Motor Activity. The general physiological effects of motor activity upon the structure and function of body organs; specific effect of exercise on the muscular system. Requires purchase of laboratory manual. Prerequisite: Physiology 209 or equivalent.

421-3 Principles of Skeletal Muscle Action. The neural, physiological and mechanical basis of skeletal muscle action and plasticity in relation to

the expression of strength and power. Prerequisite: Physiology 209 or equivalent.

425-2 Current Topics in Athletic Training. This course is designed to study and discuss current issues in athletic training and the health care of the athlete.

426-2 Advanced Techniques and Research in Therapeutic Modalities. Specifically designed for the student who wishes to become an athletic trainer and gain knowledge in the application and current research in therapeutic modalities.

493-2 to 4 Individual Research. The selection, investigation, and writing of a research topic under supervision of an instructor. (a) Dance. (b) Kinesiology. (c) Measurement. (d) Motor development. (e) Physiology of exercise. (f) History and philosophy. (g) Motor learning. (h) Psycho-social aspects. Written report required. Prerequisite: consent of adviser and department chair.

494-2 (1,1) Practicum in Physical Education. Supervised practical experience at the appropriate level in selected physical education activities in conjunction with class work. Work may be in the complete administration of a tournament, field testing, individual or group work with special populations, administration of athletics or planning physical education facilities. Prerequisite: consent of adviser.

500-3 Techniques of Research. Study of research methods and critical analysis of research literature specifically applied to the areas of sport exercise and motor performance. Prerequisite: consent of advisor.

501-2 Research Tools in Physical Education. An introduction to quantitative and qualitative data analysis. Specific topics will include but not be limited to: repeated measures analysis of variance and basic research designs in exercise science and sport studies. Prerequisite: 500.

503-2 Seminar in Physical Education. Making a systematic analysis of problems and issues encountered in the conduct of physical education. Selection of a problem or issue that is a concern to physical education and suggestion of solutions.

505-2 to 6 (2 per topic) Topical Seminar in Physical Education. Students may concentrate on different topics each semester dependent upon both the interests of the students and the expertise of the graduate faculty. Prerequisite: consent of instructor.

508-2 Administration of Athletics. Designed to present a broad view of the role of athletics in its relationship to the total educational program, and to examine current practices in athletic management which operate within a framework of recommended policies and rules which govern athletics.

509-3 Administrative Theory and Practice in Physical Education. Selected administrative processes in physical education and the application of theory to the processes. The course attempts to systematize concepts, insights and propositions into a usable form, to increase the understanding of administrative problems, and to expand existing knowledge and thought about be-

havioral phenomena. Prerequisite: 503 for those with an administrative emphasis.

510-3 Motor Development. In-depth study of the development of gross motor skills from infancy through adolescence, the biological and environmental variables that affect motor development, and individual differences in attaining motor proficiency. In addition, selected current issues in motor development will be examined. No prerequisite.

511-3 Analysis of Human Physical Movement. Principles and procedures for qualitative analysis and the teaching of mechanical constructs for movement activities. The student completes a cinematographic analysis. Prerequisite: 303 or equivalent.

512-3 Biomechanics of Human Motion. Methods of data collecting and analyzing the biomechanics of human motion under normal and pathological conditions are covered. Students complete a biomechanical study for a one segment motion.

515-3 Body Composition and Human Physical Performance. Physical dimensions of the human body as they influence motor performance and are modified by protracted physical exercise. Prerequisite: 420 or equivalent.

517-2 Athletic and Physical Education Facilities Design, Construction, and Maintenance. Basic principles of design, construction, and maintenance of athletic and physical education facilities based upon program characteristics and potential student enrollment. Emphasis on the development of new materials and trends toward new concepts of design and construction. Prerequisite: 357 or equivalent.

520-3 Metabolic Analysis of Human Activity. Metabolic principles pertinent to human physical performance with emphasis on sport, exercise and occupational activity analysis. A detailed study of oxygen utilization, oxygen debt, mechanisms of oxygen transport as they relate to physiological homeostasis in localized and total body motor activity. Emphasis on the laboratory study of aerobic and anaerobic performance. Prerequisite: 420 or equivalent.

550-3 Legal Aspects of Sport and Physical Activity. A course designed to acquaint student with legal research and the role that law plays in

governing the physical education, sport and fitness industries. The student will actively research various theories of law and how they affect the nature of physical education, sport fitness activity, the participants and consumers. An additional focus will be on specific situations that give rise to injury and subsequent law suits.

555-1 to 4 Internship in Sport Management. The internship is a culminating experience directly related to the student's intended employment or area of interest. It will, therefore, normally be taken after the predominance of course work is completed. The internship may be completed in any appropriate setting as judged by the faculty associated with the area of sport management. All conditions of placement, conduct and evaluation of the internship will be under the jurisdiction of the appropriate faculty. Graded *S/U* only.

560-3 Gender and Sport: Sociological and Psychological Perspectives. (Same as Women's Studies 560). This course explores psychological and sociological dimensions underlying the concept of gender and critically examines how gender relates to sport and physical activity. Students will be introduced to non-traditional as well as traditional research that addresses the issue of gender in various physical activity contexts.

590-1 to 4 Readings in Physical Education. Supervised readings in selected subjects. Prerequisite: consent of adviser and department chair.

592-2 to 8 Research in Physical Education. Plan, conduct, and report assigned research studies. Masters students may take up to three credit hours. Doctoral students must enroll for a minimum of six credit hours. Graded *S/U* only. Prerequisite: 500 or equivalent, consent of instructor.

599-1 to 6 Thesis. Graded *S/U* Prerequisite: 500 or equivalent.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Physics

E-mail: physics@physics.siu.edu

COLLEGE OF SCIENCE

Ali, Naushad, Professor, Ph.D., University of Alberta, Canada, 1984; 1986.

Cutnell, John D., Professor, Ph.D., University of Wisconsin, 1967; 1968.

Gruber, Bruno J., Professor, *Emeritus*, Ph.D., University of Vienna, Austria, 1961; 1972.

Hart, Charles F., Associate Professor, Ph.D., University of Texas, 1981; 1986.

Henneberger, Walter C., Professor, *Emeritus*, Ph.D., Gottingen University, Germany, 1959; 1963.

Johnson, Kenneth W., Professor, Ph.D., Ohio State University, 1967; 1970.

Malhotra, Vivak, Professor, Ph.D., Kanpur University, India, 1978; 1984.

Malik, F. Bary, Professor, Ph.D., Gottingen University, 1958; 1980.

Masden, J. Thomas, Associate Professor, Ph.D., Purdue University, 1983; 1984.

Migone, Aldo D., Professor, Ph.D., Pennsylvania State University, 1984; 1986.

Nickell, William E., Professor, *Emeritus*, Ph.D., University of Iowa, 1954; 1963.

Sanders, Frank C., Jr., Associate Professor, Ph.D., University of Texas, 1968; 1969.

Saporoschenko, Mykola, Professor, *Emeritus*, Ph.D., Washington University, 1958; 1965.

Tao, Rongjia, Professor and *Chair*, Ph.D., Columbia University, 1982; 1989.

Tata, Darrell B., Assistant Professor, Ph.D., University of Illinois, Urbana-Champaign, 1991; 1997.

Watson, Richard E., Professor, *Emeritus*, Ph.D., University of Illinois, 1938; 1958.

The Department of Physics offers graduate work leading to the Master of Science degree with a major in physics.

In addition to the general requirements of the Graduate School, the student must complete PHYS 500a (or mathematics equivalent), 510, 520a,b, and 530a,b. Other specific requirements for the master's degrees are as follows.

Master of Science

A reading knowledge of a foreign language or demonstrated competence of computer skill is required. This requirement can be met by passing one of the Educational Testing Service's graduate foreign language examinations for the language option, or by passing FL 488 with a grade of A or B, for the language option, or by passing MATH 475a, CS 464a, or an equivalent course in numerical analysis for the computer skills option. English can be substituted for either of the above requirements at the discretion of the graduate adviser provided it is not the native language of the candidate. Physics 424 may be substituted for the foreign language requirement.

A thesis is required, based upon not more than 6 nor less than 3 semester hours of 599-level credit. The 599 credit requirement is in addition to the minimum of 15-hour requirement at the 500 level as stated in this catalog and should be distributed preferably over several terms of enrollment. Each candidate for an M.S. degree is required to earn one credit in PHYS 581 by lecturing in the graduate seminar and is required to pass an examination, written or oral or both, covering graduate work including the thesis. This examination is given by the student's advisory committee.

Courses (PHYS)

410-3 Mechanics II. Gravitation, continuous media, transformation properties, Lagrangian and Hamiltonian formalisms. Prerequisite: 310 or consent of instructor.

420-3 Electricity and Magnetism II. Induced electromotive force, quasisteady currents and fields, Maxwell's equations, electromagnetic waves and radiation, with applications. Prerequisite: 320 or consent of instructor.

424-3 Digital Electronics for the Scientist. Coordinated two-hour lecture and two-hour laboratory study of digital electronics, microprocessors and minicomputers with emphasis on their application to the experimental research laboratory setting. Topics include Boolean algebra, basic digital techniques, large scale integration devices, analog to/from digital conversion, microprocessors and minicomputers and data acquisition. Prerequisite: 324 or consent of instructor.

425-3 Solid State Physics I. Structure of a crystalline solid; lattice vibrations and thermal properties; electrons in metals; band theory; electrons and holes in semiconductors; opto-electronic phenomena in solids; dielectric and magnetic properties; superconductivity. Prerequisite: 310, 320, 345 and 430 or consent of instructor.

428-3 Modern Optics and Lasers. Properties of electromagnetic waves in space and media, polarization and interference phenomena and devices, electro- and magneto-optic effects, optical gain

and lasers. Prerequisite: 420 or consent of instructor.

430-3 Quantum Mechanics I. An introduction to quantum mechanics including its experimental basis and application in atomic physics. Prerequisite: 205c, 310 and 320. Prior or concurrent enrollment in 410 and 420 is desirable.

431-3 Atomic and Molecular Physics I. Atomic spectra and structure; molecular spectra and structure. Prerequisite: 430 or consent of instructor.

432-3 Nuclear Physics I. Basic nuclear properties and structure; radioactivity, nuclear excitation, and reactions, nuclear forces; fission and fusion. Prerequisite: 430 or consent of instructor.

445-3 Statistical Mechanics I. An introductory course in the principles and applications of classical and quantum statistical mechanics, and the elementary kinetic theory of matter. Prerequisite: 345.

450-1 Modern Physics Laboratory. Introduces students to experimental research and encourages them to develop and carry out experiments. Prerequisite: 205c or consent of instructor.

458-2 Laser and Optical Physics Laboratory. Properties of laser beams and resonators, fluorescence and two photon spectroscopy, diffraction, Fourier transformation and frequency filtering, electro- and magneto-optic modulation, fiber propagation and related experiments. Prerequisite: 428 or consent of instructor.

470-1 to 3 Special Projects. Each student chooses or is assigned a definite investigative project or topic. Prerequisite: 310, 320 or consent of instructor.

500-6 (3,3) Mathematical Methods in Physics. Vector spaces and operators in physics. Hilbert spaces and complete orthonormal sets of functions. Elements and applications of the theory of analytic functions. Methods for the solution of partial differential equations of physics. Prerequisite: Mathematics 407 or equivalent, consent of instructor.

510-4 Classical Mechanics. Generalized coordinates and forces. Lagrangian, Hamiltonian, and variational formulations of mechanics. Central forces, oscillations; normal modes of molecular systems. Prerequisite: 410.

520-6 (3,3) Electromagnetic Theory. Determination of static, electrostatic, and magnetostatic fields. Microscopic and macroscopic theory of insulators and conductors. Maxwell's equations; radiation, propagation and scattering of electromagnetic waves. Electrodynamics and special theory of relativity. Selected topics. Prerequisite: 420.

530-6 (3,3) Quantum Mechanics II. Basic principles; the harmonic oscillator and the hydrogen atom; scattering; approximation and perturbation methods; spin, statistics. Prerequisite: Mathematics 406 or consent of instructor; 500 desirable.

531-6 (3,3) Advanced Quantum Mechanics. Quantum theory of radiation; applications of field theory to elementary particles; covariant quantum electrodynamics; renormalization; special topics. Content varies somewhat with instructor. Prerequisite: 530 and consent.

535-6 (3,3) Atomic and Molecular Physics II. Recent experimental methods in atomic and molecular spectroscopy with applications. Detailed quantum mechanical and group theoretical treatment of atomic and molecular systems. Reactions between atomic systems. Prerequisite: consent of instructor.

545-6 (3,3) Statistical Mechanics II. Principles of classical and quantum equilibrium statistics; fluctuation phenomena; special topics in equilibrium and non-equilibrium phenomena. Prerequisite: 445.

550-3 Computational Physics. Using modern computers to solve physics problems. Integration of ordinary and partial differential equations, interpolation and extrapolation, finite element analysis, linear and nonlinear equations, eigen-systems, optimization, root finding, Monte Carlo simulations, etc. Prerequisite: Mathematics 305, computer language FORTRAN or C, or consent of instructor.

560-6 (3,3) Nuclear Physics II. Fundamental properties and systematics of nuclei, scattering theory, nuclear two-body problem, nuclear models, nuclear many-body problem, electromagnetic properties of nuclei, radioactivity, nuclear reactions. Prerequisite: 530 and consent of instructor.

565-6 (3,3) Solid State Physics II. Fundamental concepts in solid state physics. Lattice vibrations, band theory of solids, the Fermi surface, dynamics of electrons. Transport, cohesive, optical, magnetic and other properties of solids. Prerequisite: consent of instructor.

570-1 to 36 Special Projects in Physics. Each student works on a definite investigative topic under the supervision of a faculty sponsor. The projects are taken from the current research in the department. Resourcefulness and initiative are required. Graded *S/U* only. Prerequisite: consent of instructor.

571-6 (3,3) X-Ray Diffraction and Electron Microscopy. (See Mechanical Engineering 504.)

575-1 to 12 (1 to 4 per topic for a maximum of three topics) Special Topics in Physics. The courses reflect special research interests of the faculty and current developments in physics. They are offered as the need arises and interest and time permit. Students are required to give presentations. Prerequisite: consent of instructor.

581-1 to 3 (1,1,1) Graduate Seminar. Lectures on special topics by students, faculty, or invited scholars; participation is required of all graduate students. For credit each student may present a seminar in the form of a lecture on a theoretical or experimental topic, a demonstration experiment or apparatus critique. Prerequisite: lecturing experience or concurrent teaching. Graded *S/U* only.

598-1 to 50 (1 to 12 per semester) Research. Maximum credit 50 hours. Graded *S/U* only. Prerequisite: consent of instructor.

599-1 to 6 Thesis.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

699-1 Postdoctoral Research. One credit hour per semester. Concurrent enrollment in any other course is not permitted. Prerequisite: must be a Postdoctoral Fellow.

Physiology

SCHOOL OF MEDICINE

Arbogast, Lydia A., Assistant Professor, Ph.D., Indiana University, 1988; 1996. Molecular aspects of reproductive neuroendocrinology.

Banerjee, Chandra, Professor, *Emeritus*, M.D., University of Calcutta, 1955, Ph.D., Medical College of Virginia, 1967; 1974.

Bartke, Andrzej, Professor and *Chair*, Ph.D., University of Kansas, 1965; 1984. Reproductive endocrinology; role of prolactin and growth hormone in the control of hypothalamic, pituitary and testicular function; transgenic animals, seasonal breeding.

E-mail: physiology@som.siu.edu

Browning, Ronald A., Professor, Ph.D., University of Illinois Medical Center, Chicago, 1971; 1973. Pharmacology, neuropharmacology.

Collard, Michael W., Assistant Professor, Ph.D., Washington State University, 1987; 1993. Transcriptional regulation by cAMP and retinoic acid.

Coulson, L. Richard, Professor, Ph.D., University of Toronto, Canada, 1971; 1978. Cardiovascular physiology and pathophysiology, coronary circulation, myocardial metabolism.

Cox, Thomas C., Associate Professor, Ph.D., Arizona State University, 1979; 1982. Ion transport across epithelial tissue.

Dunagan, Tommy T., Professor, *Emeritus*, Ph.D., Purdue University, 1960; 1962.

Ellert, Martha, Associate Professor, Ph.D., University of Miami, 1967; 1975. Properties of sulfhydryl reagent pCMBS; effects of material hyperthermia and rubella vaccine on pregnant animals and their offspring.

Falvo, Richard E., Professor, Ph.D., University of Wyoming, 1970; 1973. Steroidal control of gonadotropin secretion and immunological approaches to the study of male reproduction.

Ferraro, James S., Associate Professor, Ph.D., The Chicago Medical School, 1984; 1987. Physiological, behavioral, and reproductive aspects of circadian rhythmicity; photoperiodic response of seasonal breeders; endogenous nature of biological rhythms during spaceflight.

Huggenvik, Jodi I., Assistant Professor, Ph.D., Washington State University, 1985; 1993. Regulation of gene expression during spermatogenesis.

Hunter, William S., Associate Professor, Ph.D., Michigan State University, 1971; 1975. Mechanism of fever and normal thermoregulation in homeothermic animals.

Kaplan, Harold M., Professor, *Emeritus*, Ph.D., Harvard University, 1933; 1949.

Murphy, Laura, Assistant Professor, Ph.D., Medical College of Georgia, 1983; 1989. Reproductive neuroendocrinology/drug abuse.

Myers, Hurley, Professor, Ph.D., University of Tennessee, 1969; 1971. Cardiovascular physiology, coronary occlusion; vascular smooth muscle hypertension.

Nequin, Lynn, Associate Professor, Ph.D., University of Illinois Medical Center, Chicago, 1970; 1976. Female reproductive physiology; environmental control of neuroendocrine systems and seasonal reproduction.

Russell, Lonnie D., Professor, Ph.D., University of Nebraska, 1974; 1977. Male reproduction system, hormonal control of spermatogenesis; Sertoli cell function; functional morphology of the testis; fertilization.

Shanahan, Michael F., Professor, Ph.D., University of Michigan, 1976; 1985. Insulin action and glucose transport across cell membranes.

Sollberger, Arne, Professor, *Emeritus*, M.D., Caroline Institute of Medicine and Dentistry, Sweden, 1957; 1972.

Steger, Richard W., Professor, Ph.D., University of Wyoming, 1974; 1985. Neuroendocrinology, gerontology, reproductive endocrinology.

Wade, David, Associate Professor, Ph.D., Cambridge University, 1967; 1974. Renal physiology, cell biology.

Yau, William M., Professor, Ph.D., Medical College of Virginia, 1971, 1973. Gastrointestinal physiology.

Graduate courses in physiology may be taken leading to the Master of Science or the Doctor of Philosophy degrees with a major in physiology. Graduate courses in physiology may also contribute to a program leading to a Master of Science degree major in biological sciences or to a teaching specialty for the Master of Science in Education degree major in secondary education or in higher education.

The Department of Physiology offers advanced training in mammalian physiology, cellular and comparative physiology, molecular biology, endocrinology and pharmacology, biophysics, and human anatomy. Students entering the graduate training program are advised to plan the course work so as to acquire a broad knowledge of the field before emphasizing one of these sub-disciplines. The advisory system in the department is set up to help students in planning their work. All graduate training programs in the department are subject to approval of the graduate program committee (GPC) of the department.

Each term the student must be engaged in a training assignment which supplements formal course work and will consist of research or teaching or both. The student is required to have participated in both types of activities, research and teaching, as a graduate student at SIUC as a condition for receiving a graduate degree.

Prerequisites for graduate training with a major in physiology usually include the equivalent of an undergraduate major in one of the biological sciences, plus inorganic and organic chemistry and a minimum of one year each of physics and mathematics. Students with undergraduate training in related areas, such as chemistry, physics, mathematics, computer science, psychology, or engineering

are strongly encouraged to consider graduate work in physiology; deficiencies in the requirements listed above can be made up early in graduate training.

Financial Assistance

The Department of Physiology offers financial assistance to qualified applicants accepted by the department. The funds which provide this assistance come from a variety of sources which include: teaching assistantships from the department; university fellowships which are applied for directly by the student; and research assistantships from grants obtained by the graduate program faculty. Students interested in financial assistance should request the appropriate application forms from the Department of Physiology office. Priority for financial assistance will be given to individuals maintaining a good academic status.

The department may support master's students for up to 24 months and Ph.D. students for 48 months on department teaching assistantships. However, every effort will be made to encourage the student and his/her adviser to find alternative sources of funding. Continuation of support will be conditioned on satisfactory performance in areas of academics, research, and teaching. Academic performance will be based on good standing in the Graduate School (3.25 GPA) and passage of the preliminary exam by the end of the third year (Ph.D. students only). Satisfactory research performance will be based on the filing of an approved research proposal by the end of the first (master's) or second (Ph.D.) calendar year and after that time by an annual memo from the student's advisory committee indicating progress in the area of research. It will be the student's responsibility to provide this documentation to the GPC. Evaluation of teaching effectiveness will be carried out by the GPC from sources possibly but not limited to the course coordinator, student evaluations and by direct observation of classes by the GPC.

A department stipend for graduate student research will be available to physiology graduate students working in laboratories of regular physiology department faculty members provided that the student is making satisfactory progress in their research program and remains in good academic standing (as defined above).

Research Tools

Doctoral students must acquire competence in one research tool and are encouraged to attain competence with two tools. The requirements for a research tool may be satisfied by establishing proficiency in advanced statistics, computer science, electronics, advanced mathematics, electron microscopy, foreign language (with suitability of a particular language being determined by the student's committee), or some technique which is acceptable to the student's advisory committee. Courses which are normally part of a track requirement or are highly recommended for students in a particular track cannot serve as tools for students in that track. For example, students in the anatomy track cannot use electron microscopy, and students in the physiology track cannot use biophysics.

Approval of a given tool by the student's committee will be granted only if the student has demonstrated proficiency by taking a formal course and receiving a grade (preferably *B* or better) or by passing a formal examination given by an expert in that field (preferably a faculty member in the university department where the subject is normally taught).

Master's Degree

The application and transcript(s) should be submitted to the Department of Physiology.

All applicants must submit a brief (300–600 words) typed statement of goals and ambitions indicating why they wish to do graduate work in one of the graduate program tracks and three letters of recommendation from instructors who

know their potential. These letters should be written on forms supplied by the department.

The Graduate School requires an earned grade point average (GPA) of 2.70 or better ($A = 4.0$) on all undergraduate work. A minimum GPA of 3.00 ($A = 4.0$) in all undergraduate and graduate work is needed for serious consideration.

The Graduate Record Exam (GRE) is required, and the score on the general part and one advanced part (biology or chemistry) must be submitted with the application.

The graduate program committee of the department will normally examine the credentials, which include the application form, transcript(s), letters of recommendation, goal statement, and GRE scores, only after all materials have been received.

For foreign students, a minimum TOEFL score of 550 is required by the Graduate School. The Department of Physiology strongly encourages that the TSE and TWE (Test of Spoken English and Test of Written English respectively) be taken. Priority for teaching assistantships will be based upon English proficiency.

Advisory Committee

Within the first six months after arrival a student must select an adviser who will help plan course work and will direct research. One faculty member in the graduate program will act as an adviser to new graduate students until they select permanent advisers. The choice of an adviser is a very important step and should be carefully considered. The written consent of the prospective adviser must be obtained and filed in the department office in order to work under his/her direction.

The functions of the adviser are:

1. To serve as chair of the advisory committee.
2. To advise on the selection of other members of the advisory committee (at least three, including one from outside the department) in consultation with the student and with the approval of the graduate program chairperson. members of the advisory committee should be able to contribute significantly to the area of the student's research program.
3. To direct the student's research and to provide the facilities required.

The advisory committee will be instrumental in planning the course schedule and research activities of the student throughout his/her enrollment in the department. Immediately following the selection of an adviser the names and signatures of committee members on the Graduate Faculty Committee Approval form of the Graduate School (available in the department office) must be filed with the department secretary. The completed form will then be forwarded to the Graduate School for final approval.

Total Hours Required

A total of 30 semester hours at the 400- and 500-level is required for the master's degree. Of the total hours completed, at least 21 of these must be graded (A, B, C) hours. At least 15 of the total 30 must be 500-level courses taken at SIUC. Of these 15, a *minimum* of 3 hours of PHSL 599 (thesis) is *required*. More than 3 hours of 599 may be taken, however only 6 may be counted toward the 500-level requirement.

Thesis

The thesis should represent a competent piece of original research carried out on a specific physiological problem under the adviser's supervision. It should include a statement of the problem, an adequate review of the literature, a careful analysis of results by whatever methods are appropriate, and an interpretation of the work and its significance. Following presentation of the thesis at a de-

partment seminar, there will be a final oral examination. The examination will cover the subject of the thesis and other matters related to the discipline.

Doctoral Program

The Graduate School requires a grade point average in previous graduate work of at least 3.25 and acceptance by the academic unit offering the Ph.D. program. See the following pages for accelerated and direct entry options.

The Graduate School requires a grade point average in previous graduate work of at least 3.25 and acceptance by the academic unit offering the Ph.D. program. See the following pages for accelerated and direct entry options.

The graduate program committee of the Department of Physiology discourages applications for graduate study leading to the doctoral degree in physiology from students who have completed both their bachelor's and master's degrees at Southern Illinois University at Carbondale.

The application and transcript(s) should be submitted to the Department of Physiology.

The Graduate Record Exam (GRE) is required, and the score on the general part and one advanced part (biology or chemistry) must be submitted with the application.

All applicants must submit a brief (300–600 words) typed statement of goals and ambitions indicating why they wish to do graduate work in one of the graduate program tracks and three letters of recommendation from instructors who know their potential. These letters should be written on forms supplied by the department.

The graduate program committee of the department will examine the credentials which include the application form, transcript(s), letters of recommendation, goal statement and GRE scores (if applicable) only after all materials have been received.

For foreign students, a minimum TOEFL score of 550 is required by the Graduate School. The Department of Physiology strongly encourages that the TSE and TWE (Test of Spoken English and Test of Written English respectively) be taken. Priority for teaching assistantships will be based upon English proficiency.

Ph.D. Direct Entry Option

This option is presently available for admission to the Graduate School. Contact the Department of Physiology for further information regarding this option. The Department of Physiology may accept a post-baccalaureate student directly into a Ph.D. program provided that the student has:

1. A cumulative undergraduate grade point average of 3.5 (A = 4.0).
2. Undergraduate course work in biology, chemistry, physics, and mathematics beyond the freshman level or an outstanding score on the graduate record exam (GRE) on (a) the general part, (b) the advanced part in biology, or (c) the advanced part in chemistry, physics, or mathematics.

A student admitted to the doctoral program under this option is subject to all existing requirements for the doctoral degree including retention, residency, examinations, dissertation, and all applicable time limits. Students admitted under this option will be required to fulfill all core requirements for their track (area of emphasis). The advisory committee may add extra requirements based on the student's background and program (e.g., course work, etc.). Students who have taken one or more core courses at another accredited university may be given credit toward their core requirements if such courses are deemed equivalent to our core courses by the graduate program committee and department grade requirements are met.

Ph.D. Accelerated Entry Option

The Department of Physiology offers the Ph.D. accelerated entry option to graduate students who have made an early commitment to a doctoral degree and meet certain criteria.

At the end of at least one year of studies at the master's level, the graduate student's advisory committee will review the student's credentials in order to establish eligibility to enter the doctoral program under this option. The student's committee will then make a recommendation that the student continue in the master's program or advance to the doctoral program. In the instances of severe deficiencies in grades or evaluation, recommendation for termination may also be made.

The student's advisory committee must establish that the student is prepared and able to conduct research at the doctoral level. For example, this can be established by publications, presentations at meetings and/or seminars, and preparation and oral presentation of their research proposal.

Further, the student must have a GPA of at least 3.25 ($A = 4.0$) in graduate course work and letters of reference attesting to the student's ability and potential to perform doctoral research.

Upon approval of the student's eligibility, the adviser and/or the advisory committee will prepare a written review of the student's qualifications and submit it for approval to the graduate program committee. They will submit a recommendation to the chair of the Department of Physiology who will submit it to the Graduate School for waiver of a master's degree or master's equivalency before entry into the doctoral program.

The student will need to submit a letter from the graduate program chairperson, an application to the Graduate School (indicating Ph.D.), and the completed Notification of Accelerated Entry Option Students form of the Graduate School.

A student admitted to the doctoral program under this option is subject to all existing requirements for the Ph.D. program including retention, residency, examinations, dissertation, and all applicable time limits.

Please note that only courses taken after admission to the doctoral program will count toward residency.

Advisory Committee

After the first six months of acceptance into the doctoral program a student must select an adviser who will help plan course work and will direct research. One faculty member in the graduate program will act as an adviser to new graduate students until they select permanent advisers. The choice of an adviser is a very important step and should be carefully considered. The written consent of the prospective adviser must be obtained and filed in the department office in order to work under his/her direction.

The functions of the adviser are:

1. To serve as chair of the advisory committee.
2. To advise on the selection of other members of the advisory committee (at least four, including one from outside the department) in consultation with the student and with the approval of the graduate program chairperson. Members of the advisory committee should be able to contribute significantly to the area of the student's research program.
3. To direct the student's research and to provide the facilities required.

The advisory committee will be instrumental in planning the course schedule and research activities of the student throughout his/her enrollment in the department. Immediately following the selection of an adviser the names and signatures of committee members on the Graduate Faculty Committee Approval form of the Graduate School (available in the department office) must be filed

with the department secretary. The completed form will then be forwarded to the Graduate School for final approval.

Total Hours Required

The requirements for the Ph.D. degree are these established by the Graduate School, the Guide to Graduate Studies and the student's advisory committee. The Graduate School requires 24 semester hours prior to candidacy and 24 semester hours of dissertation credit.

Preliminary Examination

After satisfactory completion of course work, students must pass a comprehensive examination (both written and oral). The examination will cover the areas of cell physiology, muscle physiology, endocrinology, cardiovascular physiology, respiratory physiology, gastrointestinal physiology, renal physiology, neurophysiology, reproductive physiology, biochemistry, and the student's research area.

The preliminary examination will be taken the first available August test date after completion of the second year of study. The August examination will be given the first full week following the completion of the summer session. Students who fail to pass the August test will be required to retake the examination in January.

The written examination will be taken prior to the oral examination. The oral examination must be taken within 30 calendar days of successful completion of the written examination. The student's committee is encouraged to meet with the student prior to the written preliminary examination to determine whether the student is prepared.

Dissertation

The dissertation is expected to be a competent piece of original research making an addition to the body of scientific knowledge. As such it should be of sufficient quality to merit publication in a peer-reviewed journal. The topic and substance of the dissertation must be approved by the student's committee. Following successful presentation and defense of the dissertation at a department seminar, there will be a final oral examination. The examination will cover the subject of the dissertation and other matters related to the discipline.

(This program is currently under revision.)

Courses (PHSL)

400-6 (3,3) Concepts in Anatomy. A detailed survey of human anatomy for preprofessional students with an interest in the biomedical disciplines, including radiographic, cross-sectional and developmental anatomy. Three lectures per week. Should be taken in a,b sequence. Prerequisite: 301 and senior standing or consent of instructor.

401-6 (3,3) Advanced Human Anatomy Laboratory. Laboratory dissection of the human body (six hours per week). Primarily for students majoring in physiology or other biological sciences, anthropology, etc. Prerequisite: 400 taken concurrently or prior enrollment in 401.

410-10 (5,5) Mammalian Physiology. Physical and chemical organization and function in mammals, with emphasis on the human. Physiology of blood and circulation, respiration, digestion, metabolism, excretion, endocrines, sensory organs, nervous system, muscle and reproduction. Primary course for all students majoring in physiology or related sciences. Four lectures and one three-hour laboratory session per week. May be taken in any sequence. Prerequisite: college level

chemistry and physics and at least junior standing.

420-6 (3,3) Principles of Pharmacology. (a) Covers absorption, distribution, and metabolism of drugs and the action of certain drug classes on the living organism. Classes of drugs to be discussed include drugs affecting the autonomic nervous system, drugs used to treat neurological and psychiatric disorders, local anesthetics, neuromuscular blocking agents, and analgesics. Two lectures per week and one two-hour laboratory. Prerequisite: 310 or 410; 410 may be taken concurrently; organic chemistry. Some knowledge of biochemistry is needed. (b) Involves a discussion of the physiological and biochemical action of various classes of drugs. Classes of drugs to be discussed include general anesthetics, antihistaminics, diuretics, antibiotics, drugs used to treat cardiovascular disorders and drugs affecting the endocrine system. Prerequisite: 420a; 310 or 410; organic chemistry.

430-6 (3,3) Cellular Physiology. Examination of the chemical and physical characteristics of eu-

karyotic cells and how they regulate cell function. Cellular physiology integrates studies of gene expression, protein function, organelle structure, and cell differentiation for more complete understanding of the role of the cell in tissue, organ and whole animal function. Prerequisite: organic chemistry or biological chemistry.

433-6 (3,3) Comparative Physiology. Variations of physiological processes in animal phyla, and comparison of these with human physiology. (a) Osmotic and ionic regulation; digestion, nutrition, and metabolism; excretion; respiration; defense and resistance. (b) Muscles and movement; circulation; nervous systems and sensory information; coverings and support; endocrine regulation; reproduction. Three lectures per week. Prerequisite: one year of biological science.

440-6 (3,3) Biophysics. (a) Biomathematics, biomechanics and biotransport. (b) Bioelectrics and bio-optics applied to physiological problems. Three lectures per week. Prerequisite: Mathematics 141 or equivalent; one year of college biological science including Physiology 310 or its equivalent; one year of college physics. May be taken in b,a sequence with consent of instructor.

460-2 Electron Microscopy. Lecture course designed to introduce the student to the theory and principles of electron microscopy. Two lecture hours per week. Prerequisite: senior standing or permission of instructor.

462-3 Biomedical Instrumentation. (Same as Electrical Engineering 462.) Diagnostic and therapeutic modalities related to engineering. Cardiovascular, neural, sensory and respiratory instrumentation. Prerequisite: consent of instructor.

470-3 Biological Clocks. Study of the temporal aspects of diverse physiological and behavioral functions which possess diurnal and sectional periodicity. Species covered will include many eukaryotic organisms including plants, but will mainly stress mammals. Oscillations in sleep-wake cycle, locomotion, reproduction, hormonal secretion and numerous other processes will be explored. In addition, the effects of biological clocks in humans and the effect of jet lag and depression will be examined. Prerequisite: 310.

500-1 to 6 (1 per semester) Advanced Seminar in Physiology. Presentation of research and current literature in physiology. Required of all graduate students in physiology. Graded *S/U* only.

501-1 Presentation of Physiological Data. Students learn to prepare and deliver oral presentations of experimental findings in physiology, to organize the talk, prepare slides, and communicate effectively. Graded *S/U* only.

510-2 Experimental Methods in Physiology. The main objectives of this course are to acquaint the student with modern laboratory equipment and principles of physiological experimentation. Prerequisite: consent of instructor.

530-3 Advanced Cellular Physiology. An advanced discussion of the following topics as they relate to the cell; release of energy, contractility, regulation and control of metabolism, electrical excitability, membrane transportation, water and organelles. Prerequisite: consent of instructor.

531-2 Advanced Cellular Physiology Laboratory. One one-hour lecture and one three-hour laboratory per week, designed to be taken concur-

rently with 530. Basic experimental procedures used in studies in cellular physiology.

533-4 Advanced Comparative Physiology. Advanced concepts and techniques used in current studies in comparative physiology. Three lectures and one discussion period per week.

540-3 Advanced Biophysics. Survey of recent biophysical research with emphasis on historical development of current advances. Three lectures per week. Prerequisite: 440 or its equivalent.

570-3 Advanced Physiological Topics. Studies of current research and literature in various topic areas of physiology. One or more of the following list of topic sections will be offered each semester, so that each section will be available once every two or three years. (a) Biological structure, (b) Cardiovascular physiology, (c) Respiratory physiology, (d) Nerve-muscle physiology, (e) Metabolism, (f) Gastrointestinal physiology, (g) Neurophysiology, (h) Radiation physiology, (i) Environmental physiology, (j) Biomathematics, (k) Biomedical computing, (l) Endocrinology, (m) Animal care, (n) Biophysics, (o) Pharmacology, (p) Special topics, (q) Reproductive physiology, (r) Renal physiology.

571-3 Research and Problems in Biological Transmission Electron Microscopy (TEM). Laboratory course designed to provide experience in techniques for biological electron microscopy. Student, with the aid of the instructor, designs and carries out a project in transmission electron microscopy. Two three-hour laboratories per week. Prerequisite: 460 or special permission of instructor.

574-3 Neuroparmacology. (Same as Pharmacology 574.) A detailed examination of the biochemical aspects of neuroparmacology with emphasis on neurotransmitters—their synthesis, storage, release and metabolism in the central and peripheral nervous system. Considerable emphasis is placed on major research developments (both past and present) that influence how one studies the action of drugs on the nervous system. Prerequisite: 410, and Chemistry 450, or equivalent.

575-3 Neuroendocrinology. Designed to investigate and discuss the current research and historical aspects of the field of neuroendocrinology. In addition, designed to have students examine and evaluate current literature in the field and through discussion have them present their analysis of the research. One hour of lecture, one hour of discussion of textual material, one hour of multiple reports on library research. Prerequisite: 410a, b or equivalent, or an undergraduate/graduate endocrinology course, or consent of instructor.

590-1 to 4 Readings or Research in Current Physiological Topics. By special arrangement with the instructor with whom the student wishes to work. Graded *S/U* only.

598-1 to 48 (1 to 12 per semester) Research. The credit hours selected for this course registration will be determined by the major professor of the student. In a typical semester no more than six hours will be taken by a student except under special circumstances. Graded *S/U* only. Prerequisite: consent of instructor.

599-1 to 6 Thesis Research. Research for thesis for Master's degree.

600-1 to 32 (1 to 16 per semester) Dissertation Research. Research for dissertation for Ph.D. degree.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or

research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Plant Biology

E-mail: plant-biology@plant.siu.edu

COLLEGE OF SCIENCE

Ashby, William C., Professor, *Emeritus*, Ph.D., University of Chicago, 1950, 1960.

Bozzola, John J., Professor and *Director*, SIU Center for Electron Microscopy, Ph.D., Southern Illinois University at Carbondale, 1975; 1983. Electron microscopy; cytology; microbiology.

Crandall-Stotler, Barbara, Professor, Ph.D., University of Cincinnati, 1968; 1970. Developmental and experimental morphology; ultrastructure; phylogenesis; bryology.

Fralish, James S., Associate Professor, *Emeritus*, Ph.D., University of Wisconsin, 1970; 1969.

Gibson, David J., Associate Professor, Ph.D., University of Wales, 1984; 1992. Plant population and community ecology, grassland and dune ecology, multivariate methods.

Klubeck, Brian P., Professor, Ph.D., Utah State University, 1977; 1978. Soil microbiology and biochemistry; microbial ecology.

Lightfoot, David A., Associate Professor, Ph.D., University of Leeds, 1985; 1991. Biotechnology (molecular); nitrogen assimilation; genetics and development.

Matten, Lawrence C., Professor, *Emeritus*, Ph.D., Cornell University, 1965; 1965.

Middleton, Beth A., Associate Professor, Ph.D., Iowa State University, 1989; 1990. Wetland ecology; tropical ecology; herbivory; landscape ecology.

Mohlenbrock, Robert H., Distinguished Professor, *Emeritus*, Ph.D., Washington University, 1957; 1957.

Newsom, Lee A., Assistant Professor, Ph.D., University of Florida, 1993; 1993. Wood anatomy; palaeoethnobotany; plant domestication; tropical ecology; horticulture; natural forest management.

Nickrent, Daniel L., Associate Professor, Ph.D., Miami University (Ohio), 1984; 1990. Plant systematics and molecular evolution; biology of parasitic flowering plants.

Olah, Ladislao V., Professor, *Emeritus*, Ph.D., Stephen Tisza University, Hungary, 1934; 1959.

Pappelis, Aristotel J., Professor, Ph.D., Iowa State University, 1957; 1960. Plant physiology; quantitative interference microscopy; quantitative cytochemistry and cytofluorescence; physiology of parasitism; cellular senescence; mutagenesis (radon; agricultural chemicals).

Preece, John E., Professor, Ph.D., University of Minnesota, 1980; 1980. Woody plant biotechnol-

ogy including tissue culture; genetic transformation; DNA polymorphism; biofuels.

Richardson, John A., Associate Professor, M.F.A., Ohio University, 1969; 1969. Botanical photography.

Robertson, Philip A., Professor, Ph.D., Colorado State University, 1968; 1970. Plant community ecology; dendrochronology, fire ecology.

Schmid, Walter E., Professor, Ph.D., University of Wisconsin, 1961; 1962. Plant physiology; absorption and translocation of micronutrient elements; physiology of tachyplants.

Stotler, Raymond E., Professor, Ph.D., University of Cincinnati, 1968; 1969. Bryology; systematics; botanical documentation.

Sundberg, Walter J., Professor, Ph.D., University of California at Davis, 1971; 1972. Mycology; cytology; systematics, ecology, and ultrastructure of fungi with emphasis on Basidiomycetes.

Tindall, Donald R., Professor and *Chair*, Ph.D., University of Louisville, 1966; 1966. Freshwater and marine phycology; aquatic ecology; algal toxins; natural products from algae.

Ugent, Donald, Professor, Ph.D., University of Wisconsin, 1966; 1968. Ethnobotany; taxonomy; biosystematics; phytogeography.

Wood, Andrew J., Assistant Professor, Ph.D., Purdue University, 1994; 1996. Stress physiology; molecular mechanisms of desiccation-tolerance; posttranscriptional gene control.

Yopp, John H., Professor, *Emeritus*, Ph.D., University of Louisville, 1969; 1970.

Associate Faculty in Doctoral Program

Aubertin, R.	Forestry
Chong, S-K.	Plant and Soil Science
Gibson, P.	Plant and Soil Science
Kapusta, G.	Plant and Soil Science
Myers, O.	Plant and Soil Science
Olsen, F.	Plant and Soil Science
Roth, P.	Forestry
Stucky, D.J.	Plant and Soil Science
Taylor, B.H.	Plant and Soil Science
Tweedy, J.A.	Plant and Soil Science
Van Sambeek, J.	U.S. Forest Service
Varsa, E.C.	Plant and Soil Science

The Department of Plant Biology offers a well-balanced graduate program leading to the degrees of Master of Science, Master of Science in biological sciences, Master of Science in Education in biological sciences, and the Doctor of Philosophy.

The areas of emphasis are those of the broadly diversified faculty which characterizes the department and faculty members of other departments who participate in joint programs. All areas of plant biology are represented. The departmental master's programs and the doctoral program are based on a combination of course work and research. An advisory committee of faculty members from plant biology and other selected departments is responsible for the degree program of the individual student. At some stage in their overall programs, all students granted a degree will have completed training equivalent to one or more courses in each of six areas of plant biology (morphology, anatomy, taxonomy, genetics, plant physiology, and ecology).

The Department of Plant Biology is housed in modern facilities in the Life Science II building. Each faculty member provides laboratory facilities for the students as part of the research program, and the department provides centralized facilities, including a growth chamber suite, herbarium, greenhouse complex, and field stations. Several University-owned field station facilities are located in southern Illinois, and University-affiliated field programs are carried out in the British Virgin Islands. Excellent cooperative research arrangements are available with other departments for such activities as electron microscopy, chemical analyses, and research photography.

A distinguishing feature of the Department of Plant Biology is its congenial atmosphere. Individuals are encouraged to develop their own programs and research activities within the scope of available resources or those which can reasonably be attained. The first master's degree was granted in 1948, and the first Ph.D. degree in 1965. All areas of plant biology have been represented in the course of the department's history, with some shifts in emphasis according to both changing interests within the scientific disciplines and changes in the faculty and student population.

Graduate degrees in plant biology will be awarded to students in recognition of their ability to do independent research as evidenced by the acceptance of a thesis or dissertation and by the demonstration of competent scholastic ability. Teaching experience in undergraduate courses is expected as part of the Ph.D. degree program.

Admission

Students must be admitted to the Graduate School before they can be considered by the department. All applications to the department must include three letters of recommendation, application form, GRE scores including verbal, quantitative, and advanced biological, and may include a financial assistance form. Criteria for admission include grade point average, letters of recommendation, and availability of faculty, space, and facilities.

A non-refundable application fee of \$20.00 must be submitted with the application. Attach your check or money order, payable to Southern Illinois University, to the top of the application form. Do not send cash. Only checks or money orders payable to United States banks will be accepted.

Applicants must have completed a course (or equivalent) in each of the following areas (these may be completed concurrently with work toward the degree): (a) general botany, (b) plant diversity (survey of the plant kingdom), (c) plant physiology, (d) plant taxonomy, (e) ecology, (f) genetics, and (g) additional requirements for the B.A. degree as specified by the College of Science in the current Undergraduate Catalog of SIUC.

A student deficient in three or fewer of these areas (a through g) must be admitted with conditional standing. A student admitted with conditional standing must make up all deficiencies within the first academic year, and until such deficiencies are completed, no more than ten academic units can be accrued toward the degree. Students lacking four or more of these areas must register as unclassified.

All deficiencies must be made up through the taking of pertinent undergraduate or graduate courses for credit with a grade of *B* or better in each.

Students desiring financial assistance should note that the deadlines for fellowship and assistantship applications are February 1 and March 1, respectively. Application forms are available from the director of graduate studies in the Department of Plant Biology.

Accelerated Entry into the Doctoral Program

A student who enters a master's program in plant biology may, if deemed capable, be permitted to apply to be accelerated into a program leading directly to a Ph.D. degree subject to the following conditions and specifications. In order to qualify for consideration, each endorsed student must: (a) have been in the SIUC plant biology graduate program no less than one academic term when proposed, (b) have a graduate grade point average of 3.75 or better, (c) have no grade (in any course, conditional or otherwise) in the graduate record of less than *B* and (d) be deemed by the graduate faculty as having superior capabilities.

Once advanced into the doctoral program by the Graduate School, the student shall be eligible to qualify for graduate assistance totaling no more than 48 months. Once in the doctoral program, the student is subject to all of the academic, retention, and exit requirements for a regular doctoral program.

If for any reason, a student who has been admitted into the accelerated entry program fails to complete the doctoral program successfully that student shall not automatically be re-admitted into the master's program. Instead, the student may (if so desired) make formal application for admission into the master's program in plant biology subject to all considerations of qualification and evaluation.

Direct Entry into Ph.D. Degree Program

Exceptional students with a baccalaureate degree may be admitted directly to the doctoral degree program. Students admitted under this direct entry option will be expected to meet all the normal requirements of the doctoral degree, take any additional course work that may be required, and will take a comprehensive/diagnostic examination during their first year in the program. The student shall be eligible to qualify for graduate assistance totaling no more than 60 months. In the event of failure of the comprehensive/diagnostic examination, the student can opt to enter the master's degree program.

Advisement

Following admission to the department and before registration for course work, the student must consult a staff member representing the field of major interest or, if this is unknown, the director of graduate studies of the department, for assistance in planning first registration. At every registration, deficiencies and specific departmental requirements must be considered first. Any changes in registration must be approved by the student's adviser.

Within the first six months of admission into the departmental program, the student must select a faculty member who is willing to serve as the major adviser. The major adviser in consultation with the student, the director of graduate studies, and the departmental executive officer will then select an advisory committee with the major adviser as chair. For the master's degree program, a minimum of three people shall make up the advisory committee. At least half of the committee must be comprised of voting members of the plant biology faculty. The advisory committee for the Ph.D. degree program will be composed of at least five people, three of which must be voting members of the plant biology faculty and one which must be from outside the department.

Following establishment of the advisory committee and before advance registration for the third term, the student will meet with the committee to discuss

the program of courses for the degree and plans for research. In this regard, the committee is empowered to require work in fields with which the student's interests are allied. The advisory committee will advise the student on the selection of readings on general and historical topics of importance which may not be encountered in formal courses. Copies of the approved program of courses and the plans for research must be placed in the departmental files.

Research and Training Assignments. Research is required of each student in the program. In addition, each term the student must be engaged in a training assignment which supplements formal course work by professional activities such as research or teaching. The assignment varies according to the needs, professional goals, and competencies of the student, and increases in responsibility as the student progresses. The assignments require from ten to twenty hours of service per week.

Academic Retention

The general regulations of the Graduate School with respect to academic retention shall be followed. In addition, no course in which the grade is below *C* shall count toward the degree or fulfillment of any requirement, but the grade will be included in the grade point average. No more than five hours of *C* work in graduate courses will count toward the degree.

All students are subject to regular review by the department's graduate policies committee. Those not attaining the minimum acceptable academic standards or who in any way fail to meet any other scheduled requirements or standards will be dropped as majors.

Course Requirements

All master's degree students must earn a minimum of 2 hours credit in plant biology seminars (PLB 580 or PLB 589), at least 1 of which must be in general seminar (PLB 580). All Ph.D. students must earn 2 hours credit in plant biology seminar (PLB 580 or PLB 589) every year of residence until admitted to candidacy and at least 1 credit each year must be in general seminar (PLB 580). The general seminar (PLB 580) will be offered once each year and all students are required to enroll in this course (the only exception will be doctoral students who are admitted to candidacy). It is strongly recommended that the student enroll in seminars dealing with subjects other than the general area of emphasis being pursued.

Those students who have not already taken a course in plant anatomy must include PLB 400-4 Plant Anatomy in their graduate degree program.

Appeals

Appeals for variations from the departmental graduate program must be presented in writing to the plant biology graduate faculty meeting as a committee of the whole. Appeals must receive approval from a majority of the total plant biology graduate faculty.

Appeals for changes in the student's graduate advisory committee or changes in the original program must be approved in the following order: (1) approval from adviser, (2) approval from remaining members of the student's advisory committee.

Student appeals for change of major adviser must be presented in writing to the plant biology graduate faculty meeting as a committee of the whole. Appeals must receive approval from a majority of the total plant biology graduate faculty.

The Master's Degree

A minimum of 30 hours of graduate credit is required beyond the bachelor's degree, including no less than 22 hours of plant biology courses, 9 of which may be individualized instruction courses, including up to 3 (minimum of 2) hours of seminar, and up to 6 (minimum of 3) hours of thesis. A graduate minor of at least 10 graduate hours may or may not be required; this is to be determined by the student and the advisory committee. At the time of completion of the thesis, the student must schedule a public presentation of the thesis material (this is in addition to the comprehensive examination).

The Ph.D. Degree

Courses. The major shall consist of a minimum of 20 semester hours at the 400 and 500 levels in formal plant biology or related courses beyond the master's degree but excludes seminar, readings, research, dissertation, and research tool requirements. The student's program must be approved by the student's advisory committee and the chair, and submitted to the director of graduate studies within the first semester of the student's program. Changes made after the first semester of the student's program must be approved by a majority of the plant biology graduate faculty.

The decision as to whether a minor shall or shall not be required shall be left to the student's advisory committee. If the committee requires a minor, it will determine the specifications of that minor.

The student shall demonstrate knowledge in two tools, one of which must be a language or statistics. A tool is defined as training in laboratory methods, instrumentation, technology, and communication skills that are integral to the pursuance of research. If a foreign language is used as a tool, the requirement may be met by passing an Educational Testing Service examination or by earning a grade of *B* or better in the appropriate 488 course or equivalent. The ETS passing level for French and German shall be 465 and the ETS passing level for Russian and Spanish shall be 440. Proficiency in statistics will be met by earning a grade of *B* or better in at least two courses totaling a minimum of six hours. Both a language and statistics will satisfy the tool requirements. However, if the student selects only a language or statistics, the remaining tool must be selected from the current list approved by the plant biology faculty. A research tool to be substituted for one language or statistics must be completed utilizing formal courses consisting of at least two terms (at least 6 hours) with an average grade of *B* or better. Courses used to satisfy the requirement shall not be applied toward the total number of hours required for the degree.

Preliminary Examination. The student's advisory committee, plus two additional faculty members appointed by the chair, shall serve as the preliminary examination committee. The preliminary examination committee will be responsible for preparing, administering, and evaluating the examination which will be both written and oral.

The written examination will be taken first and will cover the candidate's knowledge of plant biology and related fields and their history, the student's accomplishments in the course of study outlined, and the student's progress in the special field. Prior to taking the examination, the student must have taken, sometime in her/his training, a second level course in each of the subdisciplines listed for the General Examination (ecology, physiology, anatomy/morphology, systematics, and genetics/cell biology). The candidates will be expected to show an understanding of the application of their formal work to their field of research. The written examination will consist of three parts: the Specialty examination which will include questions in the student's field of interest, the General Examination which will include questions testing basic knowledge in all subdis-

ciplines in plant biology, and the Minor examination which will include questions in the student's outside minor field or secondary concentration within plant biology. The General Examination should encompass concepts and information at a level and depth consistent with the department's non-elective requirements for a bachelor's degree in plant biology. The entire written examination is to last no longer than five days and each part is to last no longer than eight hours.

The student must pass all parts of the written to proceed to the oral examination. Pass means sufficient information is evident to permit the student to proceed to the oral part of the examination. A vote to pass or fail must be taken immediately following the grading of the written examination. To pass the written examination, the vote of the preliminary examination committee will determine (by majority vote) whether the student will be allowed to continue in the program or whether the student will be required to retake part or all of the written examination. If a student fails any (subdiscipline) of the general examination, she/he must be reexamined on the failed portion. If the student fails more than one portion of the general examination, retesting on all failed portions must be taken concurrently. A student will be allowed only two attempts to pass the written examination or any part thereof. A part is defined as the 1) Specialty examination, 2) Minor Examination, and 3) the General Examination. In any event, the student must pass the written examination by the second attempt in order to continue in the doctoral program. Upon failing the written (or any part thereof), the student may not retake the exam during the same academic term.

The oral examination will be taken no sooner than ten days nor later than thirty days following the passing of the written examination. The preliminary examination should be announced at least 10 working days before the examination is to be given. The examination may only be scheduled when classes are in session, including finals week. The examination shall last at least two hours and no more than four hours and should be scheduled to allow attendance of a maximum number of the plant biology graduate faculty and all of the preliminary examination committee members. The student's answers to the written examination will be made available to the graduate faculty in plant biology (upon request) before the oral part of the preliminary examination. All attending graduate faculty members will be given the opportunity to express their opinion on the examination. A vote on performance in the oral examination must be taken immediately following completion of the examination. A vote to pass must be by unanimous vote of the preliminary examination committee and may have conditions. If the vote is pass, then two levels of pass may be recognized: Pass and Pass with Distinction. A student will be allowed two attempts to pass the oral preliminary examination. Doctoral students entering the program with a master's degree must pass the preliminary examination and be admitted to candidacy by the end of 36 calendar months after first registering in the doctoral program.

Final Examination (Dissertation Defense). The final examination will be oral. The advisory committee must notify the departmental director of graduate studies of its recommendation for the date of the final examination at least two weeks before the examination. The final examination should be announced at least 10 working days before the examination is to be given and it must be held at least one month before graduation. The examination may only be scheduled when classes are in session, including finals week. The final examination shall last for no more than three hours. It is to cover the dissertation and related subject matter. Passage of the final oral examination should be construed to mean that there be no more than one dissenting vote of the advisory committee. Should a student fail this second attempt to pass the final examination, he/she will be dropped from the program.

(This program is currently under revision.)

Courses (PLB)

For all field courses in plant biology, students will be assessed a transportation fee. In addition, certain courses may require the purchase of additional materials and supplies, generally \$1 to \$5 in total cost.

400-4 Plant Anatomy. An introduction to cell division, development, and maturation of the structures of the vascular plants. Laboratory. Prerequisite: Biology 200b or consent of instructor.

404-4 The Algae. A phylogenetic approach to the study of algae with emphasis on comparative cytology, morphology and ecology. Laboratories include a detailed survey of freshwater algae and a general treatment of representative marine forms. Two lectures and two two-hour laboratories per week. Prerequisite: 204 or consent of instructor.

405-4 The Fungi. A survey of the fungi — their structure, development, relationships, ecological roles and economic importance. Two lectures and two laboratories. Prerequisite: 204 or equivalent.

406-3 Bryology. Structure, development, and relationships of the liverworts, hornworts and mosses. Two lectures and one laboratory per week. Prerequisite: 204 or equivalent.

409-3 Field Mycology. The taxonomy, ecology, and distribution of fungi in southern Illinois and environs with emphasis on techniques of specimen collection, preservation, identification and recognition. Prerequisite: Biology 200b; 204 recommended.

410-4 Taxonomy and Ecology of Bryophytes and Lichens. Floristic studies of the moss, liverwort, hornwort and lichen communities of southern Illinois. Prerequisite: Biology 200b or equivalent or consent of instructor.

414-3 Paleobotany. (Same as Geology 414) The study of external form, internal structure, and relationships of plant fossils. Two lectures and one laboratory per week. Prerequisite: 204; 400 recommended.

415-5 Morphology of Vascular Plants. The study of external form, internal structure and relationships of vascular plants. Three lectures and two laboratories per week. Prerequisite: 204. Recommended 400.

416-3 Limnology. (Same as Zoology 415) Lakes and inland waters; the organisms living in them, and the factors affecting these organisms. Two lectures per week and one four-hour laboratory alternate weeks. Offered Fall term. Prerequisite: 220a.

420-3 Techniques in Plant Molecular Biology. Students will gain hands-on experience with current molecular techniques being applied to questions in the plant sciences. These include isozyme electrophoresis, DNA and RNA extraction, restriction endonuclease digestions, Northern blotting, Southern blotting, PCR (polymerase chain reaction), gene cloning and DNA sequencing. Students will also gain some exposure to the use of computers in manipulating and analyzing molecular data. Prerequisite: Biology 200a,b (or equivalent) and junior standing, or consent of instructor.

421-4 Botanical Microtechnique. Introduction to practical methods of preservation and preparation of plant materials for laboratory and microscopic study. Paraffin and plastic embedding and sectioning techniques, and use of general and histochemical stains stressed. Includes chromosome squashing, whole-mount preparation, photomicrography and other techniques. One lecture and three laboratories per week. Prerequisite: Biology 200b or equivalent.

425A-5 Advanced Plant Physiology. (Same as Plant and Soil Science 425a) Intermediary plant metabolism. Characterization of the photosynthetic and metabolic pathways of biosynthesis and degradation of organic constituents; role of environmental regulants of plant metabolism. Prerequisite: 320 and consent of instructor.

425B-5 Advanced Plant Physiology. Physics of plants; membrane phenomena; water relations; mineral nutrition. Prerequisite: 320 and consent of instructor.

430-3 Economic Botany. Classification, evolution, domestication, and botanical characteristics of plants useful to people. Every year. Prerequisite: Biology 200b or equivalent.

433-4 Introduction to Agricultural Biotechnology. (Same as Plant and Soil Science 433) This course will cover the basic principles of plant and animal biotechnology using current examples; gene mapping in breeding, transgenic approaches to improve crop plants and transgenic approaches to improve animals will be considered. Technology transfer from laboratory to marketplace will be considered. An understanding of gene mapping, cloning, transfer and expression will be derived. Prerequisite: senior standing or consent of instructor.

439-2 Natural Areas and Rare and Endangered Species. Evaluation of the natural area preservation concept with emphasis on how to detect natural areas and methods to preserve them. Emphasis on the rare and endangered species program, its significance and its methodology. Prerequisite: 304, Biology 307.

440-3 Grassland Ecology. A study of grassland structure and function in relation to various biotic and abiotic factors. Cost of field trips: \$5, and textbooks must be incurred by the student. Prerequisite: 304 and Biology 307 or equivalent.

443-4 Forest Ecology and Reclamation. Soil, climatic, and genetic factors affecting tree distribution and growth in disturbed and natural habitats. Saturday field trips. Prerequisite: 307 or equivalent.

444-4 Quantitative Plant Ecology. Includes concepts and methods pertaining to the analysis of ecological data. Approaches will include quantitative methods for classifying, ordinating and describing structure of communities. Laboratory will include the computer application of these concepts and methods to field situations. Prerequisite: 360, Biology 307, or consent of instructor.

445-4 Wetland Plant Ecology. Provides students with experience in wetland plant ecology with an emphasis on wetland functioning, field sampling and identification of common wetland plants. Travel fee for field trips: \$10. Prerequisite: 304, Biology 200b, 307, or consent of instructor.

447-2 to 6 Field Studies in Latin America. Two to six weeks of intensive field work to acquaint students with the flora and vegetation in various environments of Latin America and with ecological and taxonomic field techniques. Cost varies with type of study and location. Transportation cost: \$80. Prerequisite: advanced standing in one of the biological sciences and consent of instructor.

448-3 to 8 Field Studies in the Western United States. Three to six weeks of intensive field work designed to acquaint students with the flora, vegetation and environments of the Rocky Mountains and adjacent areas. Both ecological and taxonomic field methods are emphasized. Transportation cost: \$100, travel expenses and textbooks must be incurred by the student. Prerequisite: 304, Biology 307 or equivalents, and consent of instructor.

449-3 Plant Systematics and Evolution. The principles of modern plant systematics including classification methods, phenetics, cladistics, speciation and isolating mechanisms, plant breeding systems, basic population genetics, hybridization, polyploidy and flowering plant phylogenetic relationships using traditional and molecular markers. Prerequisite: Plant Biology 304 (or equivalent) or consent of instructor.

450-2 Plant Geography. World distribution of plants related to environmental, floristic and historical factors. Prerequisite: interest in biology.

451-4 Flora of Southern Illinois. Exposure to the major upland and lowland communities of southern Illinois with an emphasis on the identification, distribution and ecology of the natural and introduced floristic components. Prerequisite: 304 or consent of instructor.

452A-2 Plant Population Ecology Lecture. The principles of plant population ecology including the spatial, age, size and genetic structures of plant populations. The origin of these different kinds of population structure, their influences upon each other and their temporal dynamics. Prerequisite: Biology 307 or consent of instructor.

452B-2 Plant Population Ecology Lab. Laboratory to learn the research techniques associated with plant population ecology. Prerequisite: 452a or concurrent enrollment.

456-2 Advanced Plant Pathology. A study of the changes occurring in host and pathogen at the host-parasite interface before, during, and after penetration. Control measures will be discussed and emphasis will be on midwest field crops. Two lectures per week. Prerequisite: 356 or consent of instructor.

475-3 Advanced Cell Biology. (Same as Zoology 475.) Cell structure at molecular and cytological levels. Includes discussions of research methods, plasma membrane, cell exterior and recognition, the endomembrane system and related organelles, self-replicating organelles, the cytoskeleton, nuclear structure and function in cell replication, cell differentiation and response, and eu-

karyotic cell evolution. Prerequisite: Biology 306 or equivalent.

476-2 Advanced Cell Biology Laboratory. (Same as Zoology 476.) Laboratory course to accompany Plant Biology 475. Light and electron microscopy, cell culturing, biochemical methods, and experimental protocols are used to study the structure of cell membranes, intracellular organelles, including the Golgi apparatus, ER, mitochondria, plastids, lysosomes, the cytoskeleton and nucleus. Prerequisite: 475 or concurrent enrollment.

485-2 Botanical Literature. A survey of the major classical and modern writings in the botanical sciences. This includes a consideration of the primary subdivisions; systematics, structure, physiology, genetics and ecology. In addition, periodicals will be treated. Prerequisite: consent of instructor.

490-3 Photographic Methods in Scientific and Biological Photography. Black and white and color. Specimen photography, macrophotography. Slides for presentation, materials and methods used in scientific publications. Prerequisite: consent of instructor.

491-3 Scientific Illustration. Materials and methods used in illustrating scientific publications including two-dimensional graphs, maps, lettering and line drawings. Three dimensional techniques will also be covered. Prerequisite: consent of instructor.

500-3 Advanced Plant Anatomy. The study of advanced topics in the anatomy of seed plants. Emphasis is on trends in and adaptive nature of evolutionary modifications of anatomical features and the application of anatomical data to plant systematics. Two lectures and one laboratory per week. Prerequisite: 400 and 421 or equivalent.

501-4 (2,2) Research Transmission Electron Microscopy. (See Science 501a, b.)

502-4 (2,2) Research Scanning Electron Microscopy. (See Science 502a, b.)

504-3 Molecular Evolution and Systematics. (Same as Zoology 500) Survey of the theory and processes of organic evolution at the level of protein and DNA in animals. Quantitative analysis of empirical genetic information; methods of phylogenetic inference from molecular data. Three lectures per week. Prerequisite: Zoology 404 or equivalent.

524-2 Advanced Plant Genetics. (Same as Plant, Soil and General Agriculture 524) A consideration of incompatibility systems, paramutation, cytoplasmic inheritance, developmental genetics, and other genetic topics as they occur in higher plants. Prerequisite: Biology 305 or equivalent.

525-2 to 16 (2 to 4, 2 to 4, 2 to 4, 2 to 4) Cell Biology Research Techniques. A special techniques course designed for graduate students specializing in cell studies. Provides instrumentation training, with emphasis on application of the method to a research project. (a) Quantitative Cytology. (b) Immuno-Labeling and Qualitative Histochemistry. (c) Deep Etching Techniques in Electron Microscopy. (d) Cell Fractionation and Biochemical Techniques.

526-4 Cytogenetics. (Same as Plant, Soil and General Agriculture 526) A study of structure, transmission, and mutation of nuclear and cyto-

plasmic genetic elements, with emphasis on the utilization of structural changes in chromosomes and of changes in chromosome number in theoretical and applied genetics. Two lectures and two laboratories per week. Prerequisite: Biology 305 and 306, or equivalent.

532-3 Embryogenesis and Organography of Plants. A study of the developmental anatomy and comparative morphology of embryophytes, with emphasis on analysis of homologous versus analogous structure. In particular, the following aspects of organ development will be considered: embryological origin, cellular pattern of formation, cytochemical and histological characterization, and diversification in form. Laboratory will allow students to observe the organographic features discussed. Prerequisite: 320, 400, or consent of instructor.

533-3 Plant Growth and Morphogenesis. A study of the role of the environmental variables (light, temperature, etc.) and phytohormones in the growth and morphogenesis of intact plants and tissue cultures. The theories of plant organogenesis and the synthesis, translocation, regulation and mode of action of the major classes of phytohormones will be treated in light of the most recent literature. Three lectures per week. Prerequisite: 320 or consent of instructor.

534-2 Techniques in Studies of Plant Growth and Development. Instruction in laboratory techniques used in the study of the role of environment and natural plant growth substances in plant morphogenesis. Two two-hour laboratories per week. Prerequisite: 320 or consent of instructor.

543-2 Tree Growth. Physiological aspects of tree growth and development. Phases of the life cycle from germination to seed production will be analyzed for effects of light, temperature, moisture, nutrients, mycorrhiza, wind, air pollution and other factors. Two lectures per week. Prerequisite: 320 or 443 or Forestry 331 or equivalent.

545A-3 Landscape and Restoration Ecology Lecture. The principles of landscape and restoration ecology including patch dynamics, landscape elements and interconnections, landscape ecology study design, human interactions with natural environments and techniques in restoration ecology. Prerequisite: Biology 307 or consent of instructor.

545B-2 Landscape and Restoration Ecology Laboratory. Laboratory to learn the techniques associated with restoration ecology. One four-hour laboratory required per week. Prerequisite: 545A or concurrent enrollment.

547-3 to 8 Tropical Studies in Costa Rica. Credit for field courses taken under the jurisdiction of the Organization for Tropical Studies in Costa Rica. Courses and credits will vary. Prerequisite: approval of OTS Advisory Committee at Southern Illinois University Carbondale.

570-2 to 3 Graduate Readings in Plant Biology. A course of individually assigned readings in

botanical literature. Every semester. Prerequisite: consent of instructor. Graded *S/U* only.

571-4 Agricultural Plant Molecular Biotechnology. (Same as Plant, Soil and General Agriculture 570) Molecular biology is rapidly making important contributions to agricultural science through biotechnology. An appreciation of molecular biology of crop plants is important to all in agriculture and biology. The relationship between plant molecular biology and the biotechnology industry will be explored. Short independent practical projects in plant molecular biology will be pursued. Prerequisite: Plant and Soil Science 433 or 454 or 520 or 524 or Animal Science 433 or Plant Biology 425 or 433 or Microbiology 421 or Chemistry 455 or consent of instructor.

578-3 Population Genetics. (Same as Zoology 578) Genetic structure of populations, factors causing changes and principles governing rate and direction of change. Three lectures per week. Prerequisite: Biology 305 or consent of instructor.

580-1 to 6 (1 per semester) Seminar. One hour discussion of current topics in biology. Every semester. Graded *S/U* only.

589-1 to 12 (1 per topic per semester) Seminars in Plant Biology. Studies of current and historical research and literature in various topic areas of plant biology: (a) Ecology; (b) Bryology; (c) Paleobotany; (d) Anatomy; (e) Systematics; (f) Phycology; (g) Mycology; (h) Pathology; (i) Physiology; (j) Morphology. Graded *S/U* only.

590-1 to 3 Introduction to Research. General introduction to research techniques. Techniques to be determined by instructor and students. Summer only. Graded *S/U* only. Prerequisite: consent of instructor; consent of department.

591-2 to 9 Research. Assignments involving research and individual problems. (a) Anatomy; (b) Bryology; (c) Ecology; (d) Morphology; (e) Mycology; (f) Paleobotany; (g) Pathology; (h) Photography; (i) Phycology; (j) Physiology; (k) Systematics. Master's students may use this for their research for their thesis. Summer only. Graded *S/U*. Prerequisite: consent of instructor, consent of department.

599-2 to 9 Thesis. Course to be taken in the preparation of the Master's thesis. Every semester. Prerequisite: consent of instructor. Graded *S/U* only.

600-1 to 36 (1 to 12 per semester) Dissertation. Course to be taken in the research for and in writing of the doctoral dissertation. Every semester. Graded *S/U* only. Prerequisite: consent of instructor.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Plant and Soil Science

E-mail: dstucky@siu.edu

COLLEGE OF AGRICULTURE

Benton, Ralph A., Professor, *Emeritus*, Ph.D., University of Illinois, 1955; 1956.

Chong, She-Kong, Professor, Ph.D., University of Hawaii, 1979; 1979. Soil physics.

Diesburg, Kenneth L., Assistant Professor, Ph.D., Iowa State University, 1987; 1989. Turf-grass science.

Doerr, William A., Associate Professor, *Emeritus*, Ph.D., Southern Illinois University at Carbondale, 1973; 1965.

Elkins, Donald M., Professor, *Emeritus*, Ph.D., Auburn University, 1967; 1967.

Gibson, Paul T., Associate Professor, Ph.D., Iowa State University, 1981; 1989. Plant genetics and breeding and statistics.

Henry, Paul H., Assistant Professor, Ph.D., North Carolina State University, 1991; 1992. Ornamental Horticulture.

Hillyer, Irvin G., Professor, *Emeritus*, Ph.D., Michigan State University, 1956; 1956.

Jones, Joe H., Professor, Ph.D., *Emeritus*, Ohio State University, 1960; 1964.

Kapusta, George, Professor, Ph.D., Southern Illinois University at Carbondale, 1975; 1964. Weed control and crop production.

Klubek, Brian P., Professor, Ph.D., Utah State University, 1977; 1978. Soil microbiology.

Leasure, J. K., Professor, *Emeritus*, Ph.D., University of Illinois, 1953; 1966.

Legacy, James, Professor, Ph.D., Cornell University, 1976; 1977.

Lightfoot, David A., Associate Professor, Ph.D., University of Leeds, 1984; 1991. Molecular agronomist.

McGuire, James M., Professor and *Dean of the College of Agriculture*, Ph.D., North Carolina State University, 1961; 1993. Plant pathology.

Midden, Karen L., Associate Professor, M.L.A., University of Georgia, 1983; 1988. Landscape design.

Myers, Oval, Jr., Professor, Ph.D., Cornell University, 1963; 1968. Plant genetics and breeding.

Olsen, Farrel J., Professor, *Emeritus*, Ph.D., Rutgers University, 1961; 1971.

Preece, John E., Professor, Ph.D., University of Minnesota, 1980; 1980. Horticultural physiologist.

Schmidt, Michael, Assistant Professor, Ph.D., Southern Illinois University at Carbondale, 1994; 1979. Plant breeding.

Steffen, Richard W., Assistant Professor, Ph.D., Iowa State University, 1993; 1994.

Stitt, Thomas R., Professor, Ph.D., Ohio State University, 1967; 1967.

Stucky, Donald J., Professor and *Chair*, Ph.D., Purdue University, 1963; 1970. Crop physiology, crop ecology, crop production and environmental aspects.

Taylor, Bradley H., Associate Professor, Ph.D., Ohio State University, 1982; 1982. Fruit production.

Twedy, James A., Professor and *Vice Chancellor for Administration*, Ph.D., Michigan State University, 1966; 1966. Herbicides and weed control.

Varsa, Edward C., Associate Professor, Ph.D., Michigan State University, 1970; 1970. Soil chemistry, fertility, and management.

Wolff, Robert L., Professor, Ph.D., Louisiana State University, 1971; 1972.

Wood, Eugene S., Professor, *Emeritus*, Ed.D., University of Missouri, 1958; 1949.

The Department of Plant, Soil and General Agriculture offers programs of study leading to the Master of Science degree with a major in plant and soil science with concentrations in the areas of crop, soil, and horticultural sciences; an emphasis in environmental studies in agriculture is also available in each of these concentrations. We offer graduate work in agricultural education and information and agricultural technologies.

Supporting courses in education, communication, engineering, plant biology, microbiology, chemistry, statistics, and other areas essential to research in the student's chosen field may be selected. Supporting courses are selected on an individual basis by the student and the advisory committee. Once the general field has been selected, the research and thesis may be completed in any one of the many divisions of that field. In field crops, the research may be directed toward crop production, management and precision farming, weeds and pest control, or plant breeding, genetics and biotechnology; in horticulture, the research and thesis may be in landscape design, vegetables, tree-fruits, small-fruits, floricultural and ornamental plants, plant tissue culture, or turf management; in soils, the research may relate to soil fertility, soil physics, soil microbiology, soil chemistry, or soil and water conservation; in environmental studies, the research may be directed toward sound pollution, water pollution, reclamation of strip-mined

soil, or agricultural chemical pollution problems. Often two of these more restricted areas can be combined in one thesis problem.

Agricultural education coursework is designed for instructors in secondary schools, for students preparing for employment at junior colleges, and for those desiring to continue their education by obtaining a Ph.D. degree. Agricultural information coursework is designed to provide graduate training for extension agents, agricultural communication professionals, product-education specialists, and others who are interested in agricultural information processing and transfer to a variety of non-student clientele. Agricultural technologies coursework is designed to offer students interested in technology based systems the opportunity to study one or more of the following areas: (a) power and machinery, (b) product handling, processing, and storage, (c) farm equipment evaluation, and (d) precision farming. Each of these areas offers application in agricultural environmental studies.

Students interested in plant and soil science at the doctoral level can be admitted to a program of study leading to the Ph.D. degree in plant biology. The program, which is administered by the Graduate School through the Department of Plant Biology, is adequately flexible to allow students to explore such interests as plant physiology, plant nutrition, chemical control of plant growth, plant genetics, etc.

Admission

Application for admission to graduate study should be directed to the department. The applicant must have the registrar of each college previously attended send an official transcript directly to the department. In addition applicants should send a letter directly to the chair of the Department of Plant, Soil and General Agriculture expressing their professional and personal career objectives. Applicants should also request that four persons who can evaluate the student's academic ability write letters directly to the chair in their behalf. Final admission to the program and a particular concentration administered by the Department of Plant, Soil and General Agriculture is made by the department. Minimal admission requirements to the program are: a) completion of the plant and soil science or general agriculture undergraduate requirements and b) a minimal grade point average of 2.7 ($A = 4.0$). The students who do not meet the requirement of completing the required courses in the undergraduate program in plant and soil science or general agriculture may apply to enroll as unclassified students to make up these deficiencies. Undergraduate course work taken to correct these deficiencies will not apply to the minimum requirements for the master's degree. Students entering the Plant, Soil and General Agriculture graduate program science with a GPA below 2.70 are accepted on a conditional basis and must enroll in 12 hours of structured courses at the 400–500 level and make a GPA of 3.0 or be suspended from the program.

Program Requirements

If the student submits a thesis, minimum coursework requirements for the master's degree may be fulfilled by satisfactory completion of 30 semester hours of graduate credit. At least 20 hours of that credit must be from structured courses. At the 500 level 15 hours of course credit are required, of which no more than 10 hours may be from unstructured courses. Graduate seminar is required but is not a structured course. Overall, at least 15 semester hours must be from departmental courses.

If the student submits a research paper (non-thesis option) minimum coursework requirements for the master's degree may be fulfilled by satisfactory completion of 40 semester hours of graduate credit. At least 30 hours of that credit must be from structured courses. At the 500 level 18 hours of course credit are required, of which no more than 10 hours may be from unstructured courses.

Graduate seminar is required but is not a structured course. Overall, at least 25 semester hours must be from departmental courses.

Students who wish to teach in agriculture education must complete a minimum of 15 hours in agriculture (including agricultural education), six hours of research methods or statistics, and six hours in education or community development. M.S. students usually take 4-6 hours of research or thesis, and complete the additional hours by taking courses in education or agriculture.

Each student, whether in the thesis or non-thesis option, will be assigned a mutually agreed upon major professor to direct the program. The major professor will serve as chair of the student's advisory committee which will consist of at least 3 members from within the department and 1 member from another department. Each master's degree candidate must pass a comprehensive oral examination covering graduate work including the thesis or research paper.

Courses (PSGA)

Field trips are required for certain courses.

400-2 Trends in Agronomy. (Same as Plant and Soil Science 400.) A discussion session format will be employed as a means of acquainting students with recent literature and allowing them to remain current with latest developments in their area of specialty. Prerequisite: senior standing.

402-1 to 12 (1 to 6 per topic) Problems in Agricultural Education and Mechanization. (Same as General Agriculture 402.) (a) Agriculture education, (b) agriculture technologies. Designed to improve the techniques of agricultural education and mechanization workers through discussion, assignment and special workshops on problems related to their field. Emphasis will be placed on new innovative and currently developed techniques for the field. A limit of six hours will be counted toward graduation in Master's degree program. Prerequisite: consent of chair.

405-3 Plant Breeding. (Same as Plant and Soil Science 405.) Principles of plant breeding emphasized together with their application to the practical breeding of agronomic, horticultural and forest plants. Field trip costs approximately \$10. Prerequisite: 305 or equivalent.

408-3 World Crop Production Problems. (Same as Plant and Soil Science 408.) Ecological and physiological factors influencing production in various areas of the world. Natural limitations on world crop production. Non-agricultural factors influence world crop output. Prerequisite: 200.

409-3 Crop Physiology and Ecology. (Same as Plant and Soil Science 409.) The effects and significance of physiological and ecological parameters on crop yields. Prerequisite: Plant Biology 320 or consent of instructor.

411-3 Human Resource Development Programs in Agriculture. (Same as General Agriculture 411.) Principles and procedures of human resource development (HRD) programs in agriculture with emphasis on program determination and methods. Prerequisite: junior standing.

412-3 Methods of Agriculture Mechanization. (Same as General Agriculture 412.) Theory and use of educational materials and devices adaptable to the needs and interests of educators involved in agricultural mechanization laboratories. There is a \$15 laboratory fee for this course.

414-3 Adult Education Procedures, Methods and Techniques. (Same as General Agriculture

414.) Determining adult education needs and interests of the community. Securing and organizing the information needed for adult education programs and planning teaching activities.

415-3 Beginning Teacher Seminar. (Same as General Agriculture 415.) The application in the professional field setting, of principles and philosophies of the education system. Includes application of principles of curricula construction, programming student and community needs. Prerequisite: consent of instructor.

418-3 Applications of Integrated Software/Agriculture. (Same as Workforce Education and Development 409.) (Same as General Agriculture 418.) Design of agricultural or educational applications of integrated software. Spreadsheet, database, wordprocessing, graphic and communications software will be applied to the solution of agricultural problems. Individual student projects will be the focus of the applied nature of the class. Prerequisite: junior standing or consent of instructor.

419-3 Forage Crop Management. (Same as Plant and Soil Science 419.) Forage crop production and utilization; forage crop characteristics, breeding, and ecology; grasslands as related to animal production, soil conservation, crop rotation and land use. Field trip costs approximately \$5.00. Prerequisite: Plant Biology 200 or one course in biology or equivalent.

420-4 Crop Pest Control. (Same as Plant and Soil Science 420.) Study of field pests of forest; orchard, field and garden crops; pest control principles and methods; control strategy; and consequences of pest control operations. Prerequisite: introductory biology or crop science course and/or consent of department.

422-3 Turfgrass Science. (Same as Plant and Soil Science 422.) Basic concepts of physiology, growth and nutrition of turfgrasses and their culture. Application of turfgrass science to management of special turf areas such as golf courses, athletic fields and sod farms; and to the turfgrass industry. Field trips cost approximately \$15. Prerequisite: 240 and 322 or equivalent or consent of instructor.

423-3 Greenhouse Management. (Same as Plant and Soil Science 423.) Principles of greenhouse management controlling environmental fac-

tors influencing plant growth; greenhouses and related structures; and greenhouse heating and cooling systems. Field trips costing approximately \$5. Prerequisite: 220 or consent of instructor.

424-4 Floriculture. (Same as Plant and Soil Science 424.) Production, timing and marketing of the major floricultural crops grown in the commercial greenhouse. Each student will have an assigned project. Field trip costing approximately \$25. Prerequisite: 423 or consent of instructor.

425A-5 Advanced Plant Physiology. (Same as Plant Biology 425A.) (Same as Plant and Soil Science 425A.) Intermediary plant metabolism. Characterization of the photosynthetic and metabolic pathways of biosynthesis and degradation of organic constituents; role of environmental regulants of plant metabolism. Prerequisite: Plant Biology 320 and consent of instructor.

428-3 Advanced Landscape Design I. (Same as Plant and Soil Science 428.) Development of the design process, graphics and verbal communication of landscape projects. Emphasis on large scale projects and residential design. Laboratory fee: \$25. Prerequisite: 328 or consent of instructor.

429-3 Advanced Landscape Design II. (Same as Plant and Soil Science 429.) Development of the design process, graphics and verbal communication of landscape projects. Emphasis on construction details, color rendering and portfolio development. Laboratory fee: \$25. Prerequisite: 328 or consent of instructor.

430-4 Plant Propagation. (Same as Plant and Soil Science 430.) Fundamental principles of asexual and sexual propagation of horticultural plants. Actual work with seeds, cuttings, grafts and other methods of propagation. Field trip costs approximately: \$5. Lab fee: \$40. Prerequisite: 220.

432-4 Nursery Management. (Same as Plant and Soil Science 432.) Principles and practices involved in the propagation, production and marketing of ornamental landscape plant materials. Emphasis on plant production with field trips to various production areas costing approximately \$40. Prerequisite: 220 and 327a, or consent of instructor.

433-4 Introduction to Agricultural Biotechnology. (Same as Animal Science 433.) (Same as Plant and Soil Science 433.) This course will cover the basic principles of plant and animal biotechnology using current examples; gene mapping in breeding, transgenic approaches to improve crop plants and transgenic approaches to improve animals will be considered. Technology transfer from laboratory to marketplace will be considered. An understanding of gene mapping, cloning, transfer and expression will be derived. Prerequisite: Senior standing or consent of instructor.

434-3 Woody Plant Maintenance. (Same as Plant and Soil Science 434.) Care and management of ornamental shrubs and trees commonly used in the landscape. Topics to include trimming, pruning, fertilization, transplanting and diagnosis of woody plant problems. Prerequisite: 327 or Forestry 202 or consent of instructor.

435-1 to 4 Agricultural Molecular Biotechnology Seminar. (Same as Plant and Soil Science 435.) Molecular Biology is rapidly making important contributions to agricultural science

through biotechnology. An appreciation of the techniques of molecular biology and their application to plant improvement is important to all in agriculture and biology. The relationships between plant molecular biology and the biotechnology industry will be discussed. Presentations on particular research problems will be made. Graded *S/U* only.

436-4 Fruit Production. (Same as Plant and Soil Science 436.) Deciduous tree and small fruit growing, physiology, management practices, marketing. Prerequisite: 220 or consent of instructor.

437-4 Vegetable Production. (Same as Plant and Soil Science 437.) Culture, harvesting, and marketing of vegetables; with morphological and physiological factors as they influence the crops. Field trip costing approximately \$5. Prerequisite: 220 or consent of department.

441-3 Soil Morphology and Classification. (Same as Plant and Soil Science 441.) Development, characteristics, and identification of soils, study of profiles; and interpretation and utilization of soil survey information in land use planning. Field trip costing approximately \$5. Prerequisite: 240 or consent of instructor.

442-3 Soil Physics. (Same as Plant and Soil Science 442.) A study of the physical properties of soils with special emphasis on soil and water relationships, soil productivity and methods of physical analysis. Prerequisite: 240.

443-3 Soil Management. (Same as Plant and Soil Science 443.) The soil as a substrate for plant growth. Properties of the soil important in supplying the necessary mineral nutrients, water and oxygen and for providing an environment conducive to plant root system elaboration. Soil management techniques that are important in optimizing plant growth. Prerequisite: 240.

445-3 Irrigation Principles and Practices. (Same as Plant and Soil Science 445.) This course will cover basic principles of irrigation sciences; water requirements of crops; soil water relationship; water application methods including flooding, sprinkler and drip (or trickle) systems; water conveyance, distribution and measurement; evaluation of irrigation efficiency; and irrigation scheduling. Considerations will also include crop production effects and economic aspects of irrigation. Prerequisite: 240 or consent of instructor.

446-3 Soil and Water Conservation. (Same as Plant and Soil Science 446.) Covers the principles of hydrologic processes and soil erosion. Consideration will be given to the occurrence of soil erosion as it affects humans, food production and the environment. The methods and technologies for protecting against and controlling of erosion will also be discussed. Prerequisite: 240 and Mathematics 110 or 113 or consent of instructor.

447-3 Fertilizers and Soil Fertility. (Same as Plant and Soil Science 447.) Recent trends in fertilizer use and the implications of soil fertility build up to sufficiency and/or toxicity levels; the behavior of fertilizer material in soils and factors important in ultimate plant uptake of the nutrients; the plant-essential elements in soils and ways of assessing their needs and additions; tailoring fertilizer for different uses and management systems; implication of excessive fertilization in our environment. Prerequisite: 240; concurrent enrollment in 448 suggested.

448-2 Soil Fertility Evaluation. (Same as Plant and Soil Science 448.) A laboratory course designed to acquaint one with practical soil testing and plant analysis methods useful in evaluating soil fertility and plant needs. One hour lecture, two hours laboratory. Prerequisite: 240; 447 or concurrent enrollment; or consent of instructor.

454-4 Soil Microbiology. (Same as Microbiology 454.) (Same as Plant and Soil Science 454.) A study of microbial numbers, characteristics and biochemical activities of soil microorganisms with emphasis on the transformation of organic compounds, nitrogen phosphorus, sulfur, iron and other plant essential nutrients. Lab fee \$15. Prerequisite: 240 or Microbiology 301.

468-3 Weeds - Their Control. (Same as Plant and Soil Science 468.) Losses due to weeds, weed identification and distribution, methods of weed dissemination and reproduction, mechanical, biological and chemical control of weeds. State and Federal legislation pertaining to weed control herbicides. Herbicide commercialization. Field Trips costing approximately \$5. Prerequisite: an introductory biology course.

470-2 Post Harvest Handling of Horticultural Commodities. (Same as Plant and Soil Science 470.) Fundamental principles of post harvest physiology, handling, and evaluation of horticultural commodities will be covered. Specific details will be given on vegetable, fruit, ornamental and floricultural commodities. Field trip costing approximately \$30. Prerequisite: 220 and Plant Biology 320.

472-2 Precision Agriculture. (Same as General Agriculture 472.) A study of the basic principles of the Global Positioning System and how that system along with currently available and emerging technologies is applied to the intensive management of production agriculture resources. Prerequisite: junior standing.

473-3 Planning Agricultural Electrical Systems. (Same as General Agriculture 473.) Design and plan the efficient application of electrical service to agricultural buildings and operations. National electric and local code requirements and safety are emphasized. Prerequisite: 170 or equivalent.

474-3 Advanced Agricultural Structures. (Same as General Agriculture 474.) A study of design characteristics, construction, methods and environmental control applicable to agricultural structures. Design construction and environment are considered from the standpoint of the function of the building of an agricultural enterprise. Prerequisite: 384 or equivalent.

476-3 Agricultural Safety and Health. (Same as General Agriculture 476.) Analysis of safety and health issues important to managers and supervisors in agricultural operations. Topics include agricultural accident data, causes and effects of accidents, hazard identification, strategies for accident prevention, response to accidents and health risks and safeguards. Development and documentation of accident and illness prevention activities in the workplace. Prerequisite: junior standing.

483-3 Agricultural Materials Handling, Processing and Storage. (Same as General Agriculture 483.) Arrangement of systems for animal waste disposal, feed handling and processing and

storage of agricultural products. Prerequisite: 373 or 384 or 473 or 474.

499-3 Agriculture Information for Elementary Teachers. (Same as General Agriculture 499.) A general inquiry into the agriculture literacy appropriate for elementary students. A framework for evaluating content appropriate for elementary students in the pursuit of agriculture literacy will be developed.

500-3 Agricultural Education and Mechanization Research Methodology. Social science research methodology in agriculture including defining research problems, preparing project proposals and sources of data.

501-3 Recent Research in Agricultural Education. A study of recent research and development in agricultural education. The course includes an analysis of regional and national scholarly publications, procedures and products. Prerequisite: graduate status and consent of instructor.

518-3 Principles of Herbicide Action. Chemistry and mode of action of herbicides. Nature of herbicidal action. Illustrates the various types of chemical weed control procedures in current use. The physiology of herbicidal action examined using the different mechanisms established for various chemical groups of herbicides. Prerequisite: 468, Plant Biology 320.

520-3 Growth and Development of Plants. Physiological control of developmental processes. Emphasis on exogenous growth-regulating compounds and their behavior in plants. Prerequisite: Plant Biology 320 or consent of instructor.

524-2 Advanced Plant Genetics. (Same as Plant Biology 524.) Prerequisite: Biology 305 or equivalent.

525-3 Program Development in Agricultural Education. Analysis and appraisal of current trends in agricultural education program development. Attention is given to implications for educators at the high school, post secondary and in extension education positions. Offered each year, alternating spring and summer semesters.

526-4 Cytogenetics. (Same as Plant Biology 526.) Prerequisite: Biology 306 and 306 or equivalent.

527-3 Professional Development in Agricultural Education. Recent developments and trends in agricultural education are presented for review and discussion. The role of the agricultural instructor in determining educational priorities is emphasized. Offered each year, alternating fall and summer semesters.

547-2 Soil-Plant Nutrient Relationships. A study of advanced topics relating to fertilizer and nutrient use efficiency by plants, including research methods for fertilizer use evaluation and plant response. Mechanisms in the soil for nutrient storage, release, fixation and loss will be dealt with as they relate to efficient use by plants. Prerequisite: 447 or equivalent.

560-5 (3,2) Field Plot Technique. (a) Design of field plot and greenhouse experiments including appropriate statistical analyses for each of the designs. Data interpretation. Prerequisite: consent of instructor. (b) Each of the designs discussed in (a) will be illustrated with a type problem and solved by computer processes using primarily MINITAB and SAS software programs.

Prerequisite: 560a or concurrent enrollment or consent of instructor.

570-4 Agricultural Plant Molecular Biotechnology. (Same as Plant Biology 571.) Molecular Biology is rapidly making important contributions to agricultural science through biotechnology. An appreciation of molecular biology of crop plants is important to all in agriculture and biology. The relationships between plant molecular biology and the biotechnology industry will be explored. Short independent practical projects in plant molecular biology will be pursued. **Prerequisite:** 433 or 454 or 524 or 520 or Animal Science 433 or Plant Biology 425 or Microbiology 421 or Chemistry 455 or consent of instructor.

572-3 Current Problems and Research in Power and Machinery. A study and analysis of current problems, research findings and innovations in agricultural power units and machinery. **Prerequisite:** 372 or equivalent.

581-1 to 4 (1,1,1,1) Seminar. Individual presentations on subjects and problems relating to soils, field and horticultural crops, education, information, and technologies and other phases of plant, soil and general agriculture. Graded *S/U* only.

582-6 (2,2,2) Colloquium in Plant and Soil Science. Recent developments and trends in specialized areas of plant and soil science will be discussed in (a) Genetics and plant breeding, (b) Research methods, (c) Physiology and ecology.

588-1 to 8 International Graduate Studies. Residential graduate study programs abroad. Approval of department required both for the nature of program and number of hours of credit. **Prerequisite:** consent of department chair. Graded *S/U* only.

590-1 to 4 Readings. Contemporary books and periodicals on selected subjects within the fields of plant, soil and general agriculture. **Prerequisite:** consent of department.

592-1 to 3 Special Problems. Directed study of specialized areas of crop production, horticulture, or soils depending on the program of the student. Discussion, seminars, readings and instruction in research techniques. **Prerequisite:** consent of department.

593-1 to 4 Individual Research. Directed research on approved projects investigating selected fields of plant, soil and general agriculture. **Prerequisite:** consent of department.

595-1 to 4 Agricultural Occupation Internship. Prepares coordinators to fulfill their responsibilities in selected areas in agricultural related occupations through an internship in the area of specialization and through orientation to related technical information. **Prerequisite:** consent of department.

599-1 to 6 Thesis. At least three hours of thesis credit is required for the Master's degree under the thesis option. **Prerequisite:** consent of department.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Political Science

E-mail: farthing@siu.edu

COLLEGE OF LIBERAL ARTS

Arnold, Laura W., Assistant Professor, Ph.D., Ohio State University, 1997; 1997. American politics, legislative politics, presidential politics, methodology.

Baker, John H., Associate Professor, Ph.D., Princeton University, 1961; 1966. American politics, urban politics, intergovernmental relations, local government.

Bhattacharyya, Jnanabrota, Associate Professor, Ph.D., University of Delhi, India, 1969; 1968. Political theory, international relations, public administration.

Blanton, Shannon Lindsey, Assistant Professor, Ph.D., University of South Carolina, 1996; 1997. International relations, foreign policy, international security, human rights.

Chou, Ikua, Professor, *Emeritus*, Ph.D., Fletcher School of Law and Diplomacy, 1949; 1964.

Clinton, Robert L., Associate Professor, Ph.D., University of Texas, 1985; 1985. Public law, political theory, public choice theory.

Collins, Susan, Assistant Professor, Ph.D., Boston College, 1994; 1995. Political theory, jurisprudence.

Dale, Richard, Associate Professor, *Emeritus*, Ph.D., Princeton University, 1962; 1966.

Desai, Uday, Professor and *Chair*, Ph.D., University of Pittsburgh, 1973; 1978. Public administration, public policy, organizational theory.

Ervin, Osbin L., Associate Professor, Ph.D., University of Tennessee, 1974; 1974. Public administration, policy analysis, environmental and land-use policy, fiscal management.

Foster, John L., Associate Professor, Ph.D., University of Minnesota, 1971; 1975. Organizational behavior and theory, urban government, program evaluation, public policy.

Garner, William R., Associate Professor, *Emeritus*, Ph.D., Tulane University, 1963; 1966.

Hamman, John, Associate Professor, Ph.D., University of Illinois, 1988; 1989. Public administration, public policy, American government and politics.

Hanson, Earl Thomas, Professor, *Emeritus*, Ph.D., University of Illinois, 1948; 1960.

Jackson, John S., III, Professor and *Vice Chancellor for Academic Affairs and Provost*, Ph.D., Vanderbilt University, 1971; 1969. American government and politics, political parties, public opinion, state and local government.

Kamarasy, Egon K., Assistant Professor, *Emeritus*, Doctor Politics, Budapest University, Hungary, 1942; 1959.

Kenney, David T., Professor, *Emeritus* Ph.D., University of Illinois, 1952; 1951.

Klingberg, Frank L., Professor, *Emeritus*, Ph.D., University of Chicago, 1938; 1946.

Landecker, Manfred, Associate Professor, *Emeritus*, Ph.D., Johns Hopkins University, 1965; 1959.

Mason, Ronald M., Associate Professor, Ph.D., University of Iowa, 1976; 1976. Political theory and American politics, political participation.

Melone, Albert, Professor, Ph.D., University of Iowa, 1972; 1979. Public law and American politics.

Miller, Roy E., Associate Professor, Ph.D., University of Illinois, 1971; 1967. Methodology, American political behavior.

Morton, Ward M., Professor, *Emeritus*, Ph.D., University of Texas, 1941; 1949.

Schubert, Glendon, Research Professor, *Emeritus*, Ph.D., Syracuse University, 1948; 1986.

Shulman, Stephen, Assistant Professor, Ph.D., University of Michigan, 1996; 1997. International relations, international security, ethnicity and nationalism, post-soviet politics.

Simon, Paul, University Professor and *Director of Public Policy Institute*. American politics, public policy, U.S. Congress.

Snavey, Keith, Associate Professor, Ph.D., University of California at Davis, 1984; 1984. Public administration; personnel management; state, local, and urban government.

Somit, Albert, Distinguished Service Professor, *Emeritus*, Ph.D., University of Chicago, 1947; 1980.

Tarry, Scott, Assistant Professor, Ph.D., University of Michigan, 1993; 1994. International relations, political economy, comparative foreign policy, methodology.

Turley, William S., Professor, Ph.D., University of Washington, 1972; 1971. International relations, comparative politics, Southeast Asian politics.

Whitlock, Jack, Adjunct Associate Professor, *Director of the University Museum*, Ph.D., Indiana University, 1971; 1978.

The Department of Political Science endeavors to accommodate the special and general interests of students through a broad curriculum, individualized programs, and varied teaching and research assistantships. The department takes a personal interest in its students throughout their period of enrollment and assists them in finding satisfying professional employment upon graduation. Graduates now hold academic appointments in 60 American universities and colleges and more than a dozen foreign institutions of higher education. Graduates are also employed in various governmental agencies at the national, state, and local level.

The professional interests of the faculty range across all fields of political science, and have resulted in significant scholarly publications and presentations at professional meetings.

Graduate programs in the Department of Political Science may be designed to lead to Master of Arts and Doctor of Philosophy degrees with a major in political science, and a Master of Public Administration degree. Graduate work in political science may be taken to satisfy requirements for a teaching specialty for the Master of Science in Education degree with a major in either secondary education or higher education. Graduate work in political science may also serve as a cognate field for a student majoring in another discipline.

Provisions of this publication are supplemented by policies made explicit in the regulations and procedures of the graduate studies program of the Department of Political Science and made available to all graduate students.

Application Procedures

Application for admission to graduate study in political science and all post-secondary education transcripts should be directed to the department. Other application materials should be sent to the director of graduate studies, Department of Political Science. These materials consist of (1) three letters of recommendation from persons who can evaluate the applicant's academic ability; (2) a careful explanation of reasons for seeking graduate study; and (3) scores on the Graduate Record Examination (GRE) verbal and quantitative tests. Foreign students must have taken the test of English as a foreign language (TOEFL) and passed the examination with a score of at least 550. In exceptional cases the GRE may be waived as an admission requirement, but it must be taken at the

first offering of the examination after the student enters the program. Application material, including instructions for applying for financial assistance, may be obtained from the director of graduate studies, Department of Political Science. Applications and supporting materials should be submitted at least four weeks before the term of registration. Those applying for graduate assistantships or fellowships should complete their applications by February 1.

A non-refundable application fee of \$20.00 must be submitted with the application. Attach your check or money order, payable to Southern Illinois University, to the top of the application form. Do not send cash. Only checks or money orders payable to United States banks will be accepted.

Master of Arts Degree Requirements

Admission. Applicants for the Master of Arts degree program are admitted only with the approval of the graduate studies committee of the department. The department imposes requirements for admission in addition to those of the Graduate School. The department will ordinarily accept as candidates for the Master of Arts degree only those applicants who (1) have graduated from an accredited four year college or university; (2) have completed a minimum of 24 quarter or 16 semester hours in government or political science; (3) have a 2.7 (4-point scale) overall grade point average or, alternatively, have a 2.9 overall grade point average for the last 2 years of undergraduate work; and (4) have a 3.0 average in government or political science.

Retention. Retention is governed by the rules of the Graduate School. Students should avoid the accumulation of incomplete grades. No student with more than 2 incomplete grades can be awarded a graduate student appointment, and a student holding a graduate student appointment is subject to having the appointment terminated upon acquiring 2 or more incomplete grades.

Course Work. The director of graduate studies serves as adviser to each M.A. student until an advisory committee has been selected by the student with the approval of the director, normally no later than the middle of the student's first semester in residence. The advisory committee must approve the student's program. The student must earn a minimum of 30 semester hours of acceptable graduate credit to qualify for the Master of Arts degree. A maximum of 12 hours can be earned in 400-level courses. A minimum of 6 semester hours must be completed in each of 3 of the following fields: political theory; methodology; American government and politics; public law; public administration and policy analysis; comparative government and politics; international relations; a cognate or interdisciplinary field. M.A. candidates must complete pro-seminars in at least 2 of the 3 areas of emphasis offered by the student for examination except in cases of cognate fields that do not stipulate pro-seminar requirements. The selection of areas of emphasis must be approved by the student's advisory committee.

The student who completes the minimum of 30 semester hours of course work may devote no more than 6 of those hours to courses taken outside of the department unless the work is in an approved cognate area. In the latter case, a maximum of 12 hours in the cognate area may be counted toward the fulfillment of area and degree requirements.

Each candidate for the Master of Arts degree must complete POLS 500A and POLS 500B. A student may count a maximum of 6 semester hours of 400- or 500-level tool course work toward partial completion of degree requirements, provided that (1) no more than 6 semester hours of an approved cognate area are counted as part of the 30 semester hours and (2) the tool courses are not counted as fulfilling one of the area requirements.

Thesis. In addition to the required course work, the student must submit a thesis. A student may receive a maximum of 6 hours credit for the thesis. Before registering for thesis credit, the student must have an overall GPA in M.A. work of at least 3.0 ($A = 4.0$) and must have selected a thesis committee approved by the director of graduate studies. The membership of the advisory committee and the thesis committee will normally be different from that of the advisory committee. A prospectus outlining the research proposed for the thesis must be approved by the members of the thesis committee and filed with the director of graduate studies.

A final oral examination conducted by the appropriate committee and open to the public will cover the thesis and the student's general competence in political science. A student may not take the examination if there are any incomplete grades on record except by petition to the graduate studies committee. If the student fails the examination or if the thesis is rejected, the student may be dropped from the department's degree program or may submit a new or revised thesis or repeat the examination at the discretion of the examining committee.

Copies of the thesis should be submitted to the student's thesis committee members no later than one week before the scheduled final oral examination. A copy of the approved thesis must be filed with the director of graduate studies.

Exceptions. An exception from these rules must be justified in a petition approved and signed by the student's committee members, submitted to the director of graduate studies and approved by the members of the graduate studies committee at a scheduled meeting.

Master of Public Administration Degree Requirements

Admission. Students are admitted to either pre-entry or mid-career status. To be admitted as a mid-career student, the student must have at least one year of professional experience in a public or quasi-public agency. Students having less than one year of professional experience are admitted to pre-entry status.

Applications for admission should be directed to the Graduate School and the director, Master of Public Administration degree program, Department of Political Science. To be considered for admission, applicants must have: (1) graduated from an accredited four-year college or university and (2) received an overall grade point average of 2.7 (4.0 scale) or, alternatively, a 2.9 overall grade point average for the last two years of undergraduate work. In instances where a candidate's promise is indicated by professional experience rather than undergraduate record, consideration will be given on an individual basis to admission or conditional admission. Retention is governed by the standards of the Graduate School. A GRE, GMAT, or LSAT score is required. An application fee of \$20.00 is mandatory.

Degree Requirements. M.P.A. students complete a 42 semester hour program of study, as follows: (1) a 5-course core curriculum, totaling 15 semester hours, with a minimum of 2.8 grade point average, (2) 18 semester hours of elective course work, 6 of which must be earned in graduate level courses in the Department of Political Science, (3) a research paper in public affairs, for which 3 semester hours are awarded, (4) an oral examination, and (5) an internship, for which 6 semester hours are earned. Of the 33 hours of graduate level course work, at least 18 semester hours must be taken in the Department of Political Science. Each of these requirements is described more fully below.

Prerequisites. Students lacking undergraduate preparation in American government and public administration must complete GEB 212 and POLS 340 during their first semester of study. Exceptions to this may be granted to mid-career students, on a case-by-case basis. Competence in statistics is required before en-

rollment in certain core courses and may be demonstrated by completion of an appropriate graduate level course, or, on occasion, by previous undergraduate course work.

The Core Curriculum. The core curriculum consists of the following five courses.

POLS 540-3 Environment of Public Administration

POLS 542-3 Public Budgeting and Fiscal Management

POLS 543-3 Public Personnel Management

POLS 544-3 Program Analysis and Evaluation

POLS 545-3 Organization Theory and Behavior

To facilitate the work of part-time (employed) students, each of the core courses is offered in the evening at least once every 3 years. A substitution for 1 core course may be allowed if the substituted course is similar in content to the particular core course or if competence in the subject matter of the course is clearly evident.

Electives. Elective courses may be selected from the offerings of various departments across the University, as well as those of the Department of Political Science. The student and the faculty adviser consult in selecting courses best suited to the student's individual career goals, which may be either specific or general in nature.

The Research Report. The research report is to be an examination of some issue or problem in public administration. It may be either theoretical or applied, or some combination of theoretical and applied concerns. Early preparation for the research project and related report begins during the student's first semester of study, and completion is normally a prerequisite for internship placement. The report is written under the supervision of the student's faculty committee.

The Oral Examination. After completion of course work and the research report, an oral examination is scheduled and conducted by the student's faculty committee. The examination gives attention to course work as well as the methodology and findings of the research report. After satisfactory performance in the oral examination, a copy of the approved research report must be filed with the Graduate School and program director. Students who fail the examination are allowed a second examination after remedial work as recommended by the committee. Candidates who fail more than once are dropped from the program.

The Internship. Pre-entry students must serve an internship in a governmental agency, unless a substitution as described below is made. The internship is usually for 4.5 months of full-time work or 9 months of half-time work, and it provides a stipend as negotiated by representatives of the program and agency. The internship is normally scheduled to begin after course work and the research report have been completed. Mid-career students receive credit for the internship on the basis of previous professional experience and submission of a paper as specified in program guidelines.

The student may substitute 6 semester hours of course work for the internship if a request is approved by the program director or if an appropriate internship is not available.

M.P.A. Aviation Administration Concentration

To be considered for admission, pre-entry applicants will need to have graduated from an accredited four year college or university with a major in some aspect of aviation, and normally have either a grade point average of 2.7 (4.0 scale) or, alternatively, a 2.9 for the last two undergraduate years. Mid-career applicants with strong professional experience may be admitted with grade point averages

below these levels and with undergraduate majors outside the aviation field. Undergraduate coursework and letters of recommendation will also be considered in admission decisions.

Prerequisites in American government, public administration and statistics for aviation concentration students are the same as for other M.P.A. students. In addition, aviation concentration students lacking undergraduate preparation in aviation management must complete a basic aviation management course.

All degree requirements for the M.P.A. program also apply to the aviation administration concentration. However, students in the aviation concentration will be required to take three of the four courses in Aviation Policy and Administration and one of the five courses in Quantitative Techniques for Decision Making, listed below. This additional curriculum of four courses (12 semester hours) reduces the electives available to aviation concentration students to 6 semester hours, instead of 18 semester hours of electives available to other M.P.A. students.

Aviation Policy and Administration

POLS 551 Aviation Policy and Planning

POLS 552 Advanced Airport Administration

POLS 553 Advanced Aviation Safety Administration

POLS 554 Aviation Law and Regulation

Quantitative Techniques for Decision Making

POLS 444 Public Policy Analysis

POLS 547a Topical Seminar in Public Administration (Tools and Techniques)

BA 452 Operations Research

BA 560 Management Information Systems

BA 572 Forecasting and Decision Making Models

It is expected that students in the aviation administration concentration will write their required master's research report on an administrative issue or problem in the aviation field. Pre-entry students in the concentration would be placed only in an aviation organization for their internship.

Concurrent Degrees in Law and Public Administration

Students who have been admitted separately to the Southern Illinois University School of Law and graduate program in public affairs may study concurrently for the Juris Doctor and Master of Public Administration degrees. Students interested in concurrent study should inform both programs before entering the second academic year of either program and will register as law students with a minor in public affairs. Each program will maintain records and evaluate final degree requirements as if the student were enrolled in only one program.

Concurrent study students must complete a minimum of 81 semester hours of School of Law credits which meet all law area requirements, as well as all M.P.A. requirements to receive the J.D. degree. Students will not be permitted to take course work outside the prescribed law curriculum during the first year of law class work. Students may enroll for both law and graduate course work during subsequent years provided a minimum of 10 semester hours of law and 12 semester hours total are taken in any term which has law course enrollment.

Concurrent study students must complete a minimum of 42 semester hours which meet the distribution requirements of the M.P.A. program to receive the M.P.A. degree. A maximum of 6 semester hours of School of Law credits of a public affairs nature (for example administrative law, environmental law, labor law, natural resources law) may be applied to both J.D. and M.P.A. requirements if approved by the director of the M.P.A. program. All concurrent study students will complete either the M.P.A. internship experience and project, or

the applied study project. Internships will normally be scheduled during the third or fourth year of concurrent study.

Doctor of Philosophy Degree Requirements

Admission. Applicants for the doctoral degree are admitted only with the approval of the graduate studies committee of the department. In addition to Graduate School and other departmental requirements, the committee ordinarily requires a grade point average of 3.5 (4-point scale) in graduate-level work and adequate background in political science. Admission is also possible through the accelerated entry option (see below) as well as direct entry from baccalaureate programs in those instances where the graduate studies committee identifies high achievement and potential in an applicant's undergraduate work. Applicants for direct entry should contact the director of graduate studies, Department of Political Science, for the most recent departmental regulations and procedures governing admission under this option.

Retention. Retention is governed by the rules of the Graduate School. Students should avoid accumulating incomplete grades. Students holding graduate assistant appointments are expected to make reasonable progress toward a degree. No student with more than 2 incomplete grades can be awarded a graduate assistant appointment, and a student holding a graduate assistant appointment is subject to having the appointment terminated upon acquiring two or more incomplete grades.

Accelerated Entry into the Ph.D. Degree Program. A student enrolled in the M.A. degree program may petition the graduate studies committee after 2 semesters in residence for waiver of the requirement of an M.A. degree as prerequisite for admission to the doctoral program, and for direct entry to the Ph.D. degree program in accordance with the following conditions. First, the student must be certified by the advisory committee to be an outstanding graduate student. In so doing, the committee must consider a wide range of supporting evidence including but not restricted to GPA, GRE, M.A. degree tool requirement, and evaluative letters from all graduate instructors from whom the student has taken courses. Second, the student must present 1 graduate research paper of outstanding quality or a published article of appropriate character and quality. The petition accompanied by the advisory committee recommendation and the supporting evidence must be presented to the graduate studies committee which will make the final decision on the petition. If admitted, the student will proceed toward the Ph.D. degree in accordance with the established rules of the department and Graduate School.

Direct Entry into the Ph.D. Degree Program. Students admitted under the direct entry option are required to fulfill M.A. degree method, tool, and course work requirements as part of the Ph.D. degree work. Additional measures of progress may be required by the student's advisory committee.

Program of Study. The work of a Ph.D. student is directed toward admission to candidacy for the doctorate, for which the student must meet the residency requirement, meet course, methods, and research tool requirements, maintain a GPA of at least 3.5, and pass preliminary examinations in 3 or 4 fields.

The student must be in residence for at least 1 year (2 semesters in each of which the student completes at least 9 hours or 6 hours if the student holds a graduate assistantship) after admission to the Ph.D. program before preliminary examinations can be taken. Residence shall be counted from the time the student passes the final examinations for the master's degree or, in cases of accelerated entry or direct post-baccalaureate entry to the Ph.D. degree program,

when the student has met all graduate school and departmental requirements pertaining to those options.

The student's program must be approved by an advisory committee selected by the student and approved by the director of graduate studies. The members of the advisory committee should represent the student's fields.

Students prepare in 3 or 4 fields, depending on the degree of concentration they have chosen. They may take a minimum of 12 hours in a primary field, 9 hours in a secondary field, and 6 hours in each of two supporting fields. Or, they may take a minimum of 12 hours in each of 2 primary fields and 9 hours in a supporting field. Under both options, students must take a minimum of 33 hours of coursework exclusive of tool and methods requirements and pass written and oral examinations in all of their chosen fields. They also must take the appropriate pro-seminar in each of their fields; not more than 3 hours of readings or individual research may be counted for each field. The field in international studies requires two pro-seminars plus POLS 568, Research Problems in International Studies. The fields are: political theory; methodology; American government and politics; public law; public administration and policy analysis; international studies; a cognate or interdisciplinary field.

The student must also complete the requirements for 2 research tools (see below) and the specialized research methods course best complementing the student's areas of study. The student's advisory committee may require additional course work, in or out of the areas of examination. The student, before enrolling in POLS 590, Readings or POLS 591, Individual Research, must have completed the appropriate pro-seminar for the area in which readings or individual research is to be done. At least half of all course work must be in 500-level courses.

Research Tools and Methods. The Ph.D. is a research degree, and students must acquire knowledge of research tools and methods. POLS 500A and POLS 500B together constitute the department's general methodology course, and are required of M.A. students and of Ph.D. students who have not had a comparable graduate-level methodology course. In addition to the general methodology course, doctoral course. In addition to the general methodology course, doctoral students are required to choose from the following methods/tools options.

1. *Minimum Quantitative Methods Requirement.* Students who need to meet a minimum requirement in quantitative methods must (a) satisfy a statistics requirement by successfully completing EPSY 506 and 507, or another statistics sequence approved by the graduate studies committee; and (b) successfully complete an additional quantitative methods course from the POLS 501 sequence, or an appropriate equivalent approved by the graduate studies committee.
2. *Minimum Qualitative Methods Requirement.* Students who need to meet a minimum requirement in qualitative methods must (a) demonstrate reading proficiency in two languages in addition to English, or a higher order of proficiency set by the student's advisory committee in one such language; and (b) successfully complete an additional qualitative methods course from the POLS 501 sequence, or an appropriate equivalent approved by the graduate studies committee. Proficiency in a foreign language may be satisfied by successful completion of a 488 course in the Department of Foreign Languages and Literatures, or by a special examination approved by the graduate studies committee in the case of a language not covered in the Department of Foreign Languages.
3. *Requirement for Ph.D. Field Exam in Methods.* Students who wish to offer methods as an examination field must (a) satisfy a statistics requirement by successfully completing EPSY 506 and 507, or another statistics sequence approved by the graduate studies committee; (b) successfully complete an additional quantitative methods course from the POLS 501 se-

quence, or an appropriate equivalent approved by the graduate studies committee; and (c) successfully complete a minimum of two additional methods courses chosen in consultation with the student's advisory committee and approved by the graduate studies committee.

Students must choose a program in methods and tools that supports their substantive coursework, theses, and dissertations. The department is amenable to self-tailored programs subject to the expertise of the faculty and the approval of the graduate studies committee. Such approved programs may suggest the need for research tools in addition to or in place of those specified in this section.

Preliminary Examinations. Before preliminary examinations can be scheduled a student must have completed all course work, 2 research tools, and a specialized methodology course, have a grade point average of at least 3.5, and have had a preliminary examination committee approved by the director of graduate studies. Students may not take preliminary examinations if there are any incomplete grades on their records except by petition to the graduate studies committee.

The written preliminary examinations are to be completed within a period of 10 days; an oral examination follows within 1 week of the last written examination upon the approval of the examination committee. A student who passes the written and oral examinations is advanced to candidacy for the Ph.D. degree; a student who does not pass the examinations may be permitted to retake them at a later date or be dropped from the degree program of the department, at the discretion of the advisory committee and the graduate studies committee.

Dissertation. A dissertation must be written under the direction of and with the approval of a five member committee, one of whom must be from outside the Department of Political Science. The membership of the dissertation committee will normally be different from that of the advisory committee. A dissertation prospectus must be approved by the members of the dissertation committee and filed with the director of graduate studies. Students must register for a minimum of 24 hours of dissertation credit, POLS 600, and cannot register for dissertation credit until they have been admitted to candidacy or, with the approval of the advisory committee and the director of graduate studies, until the term during which preliminary examinations are scheduled.

An acceptable dissertation must be completed within 5 years after admission to candidacy, or the student will have to repeat preliminary examinations. Final copies of the dissertation should be submitted to the members of the dissertation committee no later than 10 days before the scheduled oral examination. The success of a final oral examination devoted primarily to a defense of the dissertation and open to the public will complete the requirements for the Doctor of Philosophy degree. A final copy of the dissertation must be filed with the director of graduate studies.

Application of Rules and Exceptions. The department's rules in force at the time of the student's admission to the Ph.D. program will apply while the student is in the program unless (1) the student voluntarily selects a newer set of rules in toto before graduation or (2) the time between admission to the Ph.D. program and passing the preliminary examinations exceeds 5 years. In the latter case, the student will automatically come under the rules in force at the beginning of the sixth year and every fifth year thereafter until the preliminary examinations are passed.

Requests for exceptions to any of the above requirements must be presented in a petition approved and signed by the members of the student's committee, submitted to the director of graduate studies, and approved at a scheduled meeting of the graduate studies committee.

Cooperative Program with University of Illinois at Springfield

The Department of Political Science at SIUC has an agreement with the political studies program at University of Illinois at Springfield (UIS) to facilitate the entry of UIS political studies students into the SIUC political science Ph.D. degree program. SIUC will accept appropriate UIS graduate credits to fulfill course work, methodology, and research tool requirements. UIS students can qualify for accelerated entry into the SIUC doctoral program after 2 semesters of study at UIS with 24 semester hours completed, a 3.5 GPA, 2 proseminars, and written evaluations from course instructors. A number of UIS faculty are eligible to serve on graduate student examination and dissertation committees. SIUC will accept up to 12 hours credit for course work, research projects, and internships completed under UIS faculty direction towards the SIUC political science Ph.D. degree. Other course work, residency, and dissertation requirements of the SIUC program must be met as described in other sections of this catalog. For more detailed information, ask the director of graduate studies, Department of Political Science, SIUC.

Courses (POLS)

The Department of Political Science offers courses toward the Master of Arts degree and Ph.D. degree in political science and the Master of Public Administration.

403-4 Philosophy of Politics. (See Philosophy 441.)

404-3 History of Political Theory. Shall survey different theorists and perspectives which have contributed significantly to the development of the ongoing tradition of political theory up to modern times. Prerequisite: 303 or consent of instructor.

405-3 Democratic Theory. An examination of various species and aspects of democratic thought, including the liberal tradition and its impact upon the United States. Prerequisite: 114 or consent of instructor.

408-3 Contemporary Political Theory. Shall explore the theorists and perspectives which have contributed to contemporary views of the political world. Prerequisite: 303 or consent of instructor.

413-3 Contemporary Intergovernmental Relations. An examination of relationships among national, state, and local governments in the American federal system, with emphasis on recent literature and contemporary issues. Special attention is given to fiscal relations, and specific intergovernmental programs in areas such as housing and environmental quality are examined. Prerequisite: 114.

414-3 Political Systems of the American States. The state level of government viewed with emphasis upon recent developments and current research. Prerequisite: 213.

415-3 Urban Politics. An examination of the environment, institutions, processes, and functions of government in an urban society with particular emphasis on current problems of social control and the provision of services in the cities of the U.S. Prerequisite: 213.

418-3 Political Communications. (See Speech Communication 451.)

419-4 Political Sociology. (See Sociology 475.)

420-3 Interest Group Politics. An examination of the structure, mobilization and impact of interest groups on American political life. The course

objectives are to study various normative critiques of American pluralism and examine the political influence of contemporary interest groups, such as labor, racial and women's organizations. Prerequisite: 114.

433-6 (3,3) Constitutional Law. (a) This, the initial course in a two-course sequence, is concerned with the basic structure and power relationships in the American constitutional system. Topics include judicial review, judicial restraint, separation of powers, the federal system, national powers, state powers, the contract clause and substantive due process. Prerequisite: 114. Political Science 330 recommended. (b) This, the second course in the constitutional law sequence concentrates on those provisions of the U.S. Constitution which protect individual rights and liberties against government encroachment. Prerequisite: 114.

435-3 Judicial Process and Behavior. An examination of the process by which judges in both trial and appellate courts at federal and state levels are selected and of the ways in which they make decisions. Attention to the structure of the courts. Study of the communication and impact of judicial decisions. The course will provide some insight into the methods used to study judicial behavior.

436-3 Administrative Law. The procedural law of public agencies, particularly the regulatory commissions but also executive branch agencies exercising regulatory functions. The exercise of discretion and its control through internal mechanisms and judicial review. Prerequisite: 114 or 340 recommended.

437-3 Jurisprudence (Theories of Law). Major schools in legal thinking. Positive law and natural law. Idea of justice and concept of natural rights.

441-3 Administration of Bureaucratic Organizations. A study of the elements of bureaucratic organization and of problems and proce-

dures in administration of complex public agencies. Emphasis is placed on the personnel aspects of public bureaucracy, including the history and structure of civil service systems, conditions of public service employment and issues in leadership and supervision. Prerequisite: 340 or consent of instructor.

443-3 Public Financial Administration. An examination of governmental revenues and expenditures, with emphasis on state and local governments. Special attention is given to patterns of taxation and expenditure, intergovernmental fiscal relations, municipal debt and administrative decisionmaking. Prerequisite: 213 recommended.

444-3 Policy Analysis. An examination of basic concepts in the policy sciences, approaches to policy analysis, applications to selected areas of policy and instruments of policy development.

445-4 Administration of Environmental Quality and Natural Resources. (Same as Geography 426.) An examination of institutional arrangement and administrative practices in the protection and use of land, water, air and mineral resources. The course include analysis of responsibility and decision-making at all levels of government (federal, state, and local) as well as corporate, interest group, and individual responses to public programs. Particular attention will be given to administration of federal environmental quality legislation including the National Environmental Policy Act, the Clean Air Act, the Water Pollution Control Act and the Surface Mining Reclamation Act.

446-3 Museum Administration. A comprehensive introduction to museum administration and management, including fiscal and budget oversight; an understanding of museum ethics; acquisition, conservation and exhibition planning; personnel matters; and museum research. Museum practicum and research stressed.

447-4 to 5 (3, 1 or 2) Urban Planning. (See Geography 470a,b.)

457-3 Government and Politics of The United Kingdom and Canada. An examination of political institutions, behaviors, interest groups, parties and public policies of The United Kingdom (of Great Britain and Northern Ireland) and of Canada with particular reference to domestic and foreign policy. Prerequisite: 250 recommended.

458-3 Contemporary Europe. Comparative study of contemporary political systems and policy issues. Emphasis on selected countries and common problems facing governments. Topics covered include the European Community, security institutions, economic, social and other public policies and study of various governing processes.

459-3 Government and Politics Russia. Transitions from Communism in the former Soviet Union. Prerequisite: 250 recommended.

461-3 Governments and Politics of Southeast Asia. Politics and governments of Burma, Thailand, Malaysia, Vietnam, Cambodia, Laos, Singapore, Indonesia and the Philippines. Prerequisite: 250 recommended.

462-3 Governments and Politics of Vietnam. Origins of revolution. The war for national reunification. Impact of American involvement. Contemporary problems of consolidation and development under communist rule. Implications for regional security. Prerequisite: 250 recommended.

463-3 Government and Politics of China. Internal political, economic and social development of China. Prerequisite: 250 recommended.

464-3 Governments and Politics in the Middle East. Internal and international politics of the Islamic states of the Middle East and North Africa and Israel. Prerequisite: 250 recommended.

465-3 Governments and Politics of Sub-Saharan Africa. (Same as Black American Studies 465.) An examination of the impact of western colonial rule on the societies and politics of Africa, the methods by which these colonial areas became sovereign states in the post-World War II era, the role of domestic political institutions, African political thought and behavior, and the development of foreign policies regarding relations with other African states, continental and international organizations and non-African states. Prerequisite: 250 recommended.

466-3 Government and Politics of Latin America. An in-depth analysis of specific problem areas in Latin American political processes as well as comparative study of selected Latin American nation-states. Prerequisite: 366 recommended.

468-3 Comparative Civil-Military Politics. A comparative study of the growth of the relationship of the armed forces with the civilian sector of the body politic, the selection, training, and professionalization of the officer corps, the control of the armed forces by the executive and legislature, the growth of strategic doctrine, insurgency and counter-insurgency warfare, and the analysis of the role of the armed forces as a governing group in a large number of nonwestern states. Prerequisite: 250 recommended.

475-6 (3,3) International Law. (a) Rules and practices governing the nations in their relations in peace and war. Prerequisite: none. 270 recommended. (b) Investigation of special problems in international law. Prerequisite: 475a.

477-3 The Making of American Foreign Policy. An advanced course dealing with the formulation and administration of American foreign policy. Prerequisite: 378 for undergraduates.

480-3 International Politics. Definition and analysis of the concepts of spheres of hegemony, alliances, regionalism, integration, interdependence, and an evaluation of their application to contemporary international politics. The course will stress the need for the continuing evaluation of the vague role of national power and influence within the framework of a changing world environment.

488-3 International Relations of the Western Hemisphere. Emphasis on the international behavior of Latin American nation-states and/or regions especially related to policy trends and historical and contemporary objectives of the U.S. Prerequisite: none. 270 recommended.

500-6 (3,3) Political Science as a Discipline. (a) Scope. Topics may include problems in the philosophy of science as it pertains to political science, conceptual frameworks, approaches, models and metaphors. This course and 500b are required of all M.A. and Ph.D. students to fulfill methods requirement for degree. (b) Methods. Topics may include strategies of research design, measurement problems, data acquisition, quantitative and qualitative analysis of political data

and computer applications. This course and 500a are required of all M.A. and Ph.D. students to fulfill methods requirement for degree.

501-3 to 9 (3 per topic) Research Methods. (a) Experimental and quasi-experimental research design. The role of experimental and quasi-experimental research design in political science. Specific topics discussed include the logic of experimental control, principles of research design, threats to internal and external validity, and ethical considerations in experimenting with human beings. Prerequisite: Educational Psychology 506 and 507. (b) Simulation. Analysis, design, construction, and evaluation of human, human-computer, and computer games and simulations for teaching, training and research in political science. Prerequisite: Educational Psychology 506 and 507. (c) Survey research and sampling. Basic concepts of sampling, sampling frames; types of sample design; survey designs, questionnaire construction, interviewing, coding, introductory survey analysis techniques and ethical considerations in political science. Prerequisite: Educational Psychology 506 and 507. (d) Causal modeling. Statistical techniques for the non-experimental investigation of causal systems. Logic of causal analysis, systems of simultaneous linear equations, causal modeling, path analysis and structural equation models. Prerequisite: Educational Psychology 506 and 507. (e) Theory and methods of scaling. (See Psychology 527.) (f) Theory building. Techniques of theory-building and typology construction. Probability theory; game theory; systems of differential equations; difference equation models; time series models; computer simulation models and causal models. Criteria for evaluating internal and external validity for the best theory. Prerequisite: Educational Psychology 506 and 507.

502-3 to 6 Topical Seminar in Research Methods. Advanced seminar in empirical research methods. Topics will vary with instructor. Prerequisite: consent of instructor.

503A-3 Data Preparation and Management-Mainframe. Covers the mainframe computer creation, dictionarying, cleaning and management of data files using SAS, SPSSX, BMD, OSIRIS and the IBM OS/VS utility programs. Also treats the use of the IBM Job Control Language (JCL), the Conversational Monitor System (CMS), catalogued procedures, instream procs and CMS EXEC's. A research tool course not to be counted toward graduate degree requirements.

503B-3 Data Preparation and Management-Microcomputer. Covers the micro computer creation, dictionarying, and cleaning and management of data files using SPSSPC, SASPC, or other micro packages. Also treats Disk Operating Language and procedures for moving data between micro and main frame computers. A research tool course not to be counted toward graduate degree requirements. Prerequisite: admission to political science or MPA graduate program or consent.

504-3 Pro-Seminar in Political theory. The course will survey a sampling of the best works from the broad and diverse spectrum of political theory. Normative, empirical, analytical, critical and other types of theoretical works will be analyzed. Students offering political theory as a

graduate area are required to complete this course prior to enrolling in research seminars in political theory.

505-3 to 6 (3,3) Topical Seminar in Normative Theory. Topic will vary with instructor. Student should see director of graduate studies for advanced syllabus.

508-3 to 6 (3,3) Topical Seminar in Empirical Theory. Systems, structural-functional, conflict, decision-making, integration, organization, exchange, communications, democratic, totalitarian, change and revolution theories will be analyzed to determine their domain and predictive and/or explanatory capacities. Generally, half of these theories will be offered every other year. Prerequisite: consent of instructor.

510-3 Pro-Seminar in American Politics. Designed to survey the major literature in the field of American government at the graduate level. The course will synthesize and integrate the literature and give an overview of topics to be covered in greater depth in each subject-matter research seminar. Highly recommended for new teaching assistants. Required for students offering American politics as a graduate area before enrolling in more advanced subject-matter seminars.

511-3 to 6 (3,3) Topical Seminar in American Politics. Topic will vary with instructor. Student should see director of graduate studies for advanced syllabus. Prerequisite: basic course, related training or consent of instructor.

514-3 Seminar in American State Politics. Student should see director of graduate studies of advance syllabus. Prerequisite: 414 or consent of instructor.

515-3 Seminar in Urban Politics. Student should see director of graduate studies for advance syllabus. Prerequisite: 415 or consent of instructor.

516-3 to 6 (3,3) Seminar in Political Behavior. Topic will vary with instructor. Student should see director of graduate studies for advance syllabus. Prerequisite: basic courses, related training or consent of instructor.

518-3 Seminar in Political Parties. Student should see director of graduate studies for advance syllabus. Prerequisite: basic courses, related training or consent of instructor.

521-3 Seminar in the Legislative Process. Student should see director of graduate studies for advance syllabus. Prerequisite: basic courses, related training or consent of instructor.

530-3 Pro-Seminar in Public Law. Designed to survey the major literature in the field of public law at the graduate level. The course will consider both traditional and nontraditional approaches to the subject and will acquaint students with readings and analyses covering the scope of this sub-field. Required of all students offering public law as a graduate area. Prerequisite: basic undergraduate work in the field or consent of instructor.

536-3 Seminar in Comparative Judicial Politics. An examination of judicial systems around the world including supra-national courts. Topics include the judicialization of politics, the activities of constitutional courts, the various modes of judicial selection and the political roles of legal professionals. Students may receive credit for this course in fulfillment of requirements in the sub-

field of public law, comparative politics, or international studies.

538-3 Topical Seminar in Public Law. A research seminar in which students are expected to produce one or more research papers on selected topics in the public law subfield. Topics will vary with instructor. Prerequisite: basic courses in the subfield.

540-3 Environment of Public Administration. Examination of the social, political, legal and managerial constraints on the behavior of public administrators. Special attention is given to the relationship between public sector managers, on the one hand, and legislators, interest group representatives, elected executives, agency employees, clients, and the general public, on the other hand. Issues in ethics and the public's expectations of professional administrators are also examined. Prerequisite: GEB 212 and Political Science 340 or equivalent or consent of instructor.

541-3 Seminar in Applied Problems of Public Administration. Study of selected problems in public administration and policy. Emphasis placed on the practitioner's perspective. Prerequisite: 340 or consent of instructor.

542-3 Public Budgeting and Fiscal Management. An examination of the theory and practice of budgeting in the public sector and of selected elements of fiscal management. The course focuses on administrative aspects of budgeting and is oriented toward preparation of students for careers in the public service. Approaches and techniques in revenue forecasting, program planning and performance measurement are included. Students utilize primary materials in conducting individual or class projects aimed at development of budgetary skills. Prerequisite: 340 or equivalent or consent of instructor.

543-3 Public Personnel Management. A study of the processes and procedures used in contemporary public personnel systems. Emphasis is placed on examination of competing models of personnel administration, application of personnel management strategies to specific case problems and public sector labor relations. Required of all M.P.A. degree candidates. Prerequisite: consent of instructor.

544-3 Program Analysis and Evaluation. An examination of approaches and problems in the analysis and evaluation of governmental programs. Emphasis is placed upon the use of analytical techniques to determine program impact and the use of evaluation in governmental decision making. Required of all M.P.A. degree candidates. Prerequisite: graduate level statistics course or consent of instructor.

545-3 Organization Theory and Behavior. An examination of various approaches to describing and understanding public organizations and the individuals within them. Emphasis is placed on study of the important theoretical literature in the field and on the application of theory of practical management problems in governmental units and agencies. Required of all M.P.A. students. Prerequisite: consent of instructor.

547-6 (3,3) Topical Seminar in Public Administration. (a) Devoted to selected techniques and tools of public administration; (b) In-depth study of selected problems in the process and environment of public administration.

548-3 Seminar in Comparative Public Administration. Comparative study of national and subnational public administrative politics, structures, policies and programs across nations and cultures.

549-3 Administration of Nonprofit Organizations. Examines the characteristics of nonprofit organizations that distinguish them from the public and for-profit sectors. Explores social and economic functions of nonprofits and such administrative issues as fundraising, working with volunteers and governing boards, satisfying tax codes and service distribution. Prerequisite: 340 or equivalent or consent of instructor.

550-3 Pro-Seminar in Public Administration. A survey of the major literature in the field of public administration. The course will synthesize and integrate the literature and provide an overview of topics to be covered in greater detail in other seminars. Required of M.A. and Ph.D. students offering public administration as a graduate area before enrolling in more advanced subject-matter seminars.

551-3 Aviation Policy and Planning. This course presents an examination of civil and military aviation policy and planning at the federal, state and local levels. The course will focus primarily on federal aviation policy and planning with emphasis on the substance of key aviation policies, the policy making process and the various agencies and client groups which influence these policies. The annual aviation forecast of the Federal Aviation Administration and related policies and plans will be reviewed. Each student will prepare an aviation public policy issue paper. Prerequisite: MPAA students or consent of instructor.

552-3 Advanced Airport Administration. This course will address the role and function of the airport administrator, especially related to the tasks of developing, operating and maintaining various airport services to meet the needs of key airport users. This course will study key airport administration cases at primary, commercial service, reliever and general aviation airports. Meeting key airport regulations concerning operations and security will be a focus of the course. Prerequisite: MPAA students or consent of instructor.

553-3 Advanced Aviation Safety Administration. The Aviation Safety Administrator's job function and responsibility for safety and accident prevention within an aviation organization is examined using the case study method. The relevant theory, concepts, procedures and techniques of resource allocation, organizational design, decision modeling, task assignment, delegation of authority and responsibility, establishment of organizational goals and priorities and risk management as they relate to Aviation Safety are included. The job functions of an Aircraft Accident Investigation Team and of an Aviation Safety Inspector will be studied. Aviation safety administration literature will be reviewed. Prerequisite: MPAA students or consent of instructor.

554-3 Aviation Law and Regulation. An examination of both international and domestic laws, treaties and regulations. Students study the rule-making process as it applies to aviation, the regulators, the laws and regulations and effects on the regulated. Special emphasis is given to the ad-

ministration and enforcement of aviation regulations. Prerequisite: MPAA students or consent of instructor.

555-3 International Aviation. An examination of the economic, legal, political and administrative milieu of international aviation. Students will study the history of the bilateral route agreements, cabotage and the legal and institutional arrangements that have evolved in international air transportation. The course will compare and contrast the domestic and international aviation policy environment. Particular attention will be placed on the emergence of international foreign ownership and marketing alliances that have been created recently, both between airlines themselves, and the dominant computer reservations systems (CRS) in existence. Other topics that will be discussed include both domestic and international labor, infrastructure and tourism development policies. Prerequisite: MPAA students or consent of instructor and 551.

556-3 Seminar in Municipal Administration. A study of the literature and recent developments in municipal administration. Emphasis is on literature and developments in areas of long-standing interest—including organization and management, state-local relations and finance and capital improvement. Prerequisite: completion of at least four of the MPA core courses, or consent of the instructor.

560-3 Pro-Seminar in Comparative Politics. Survey of the major literature in comparative politics at the graduate level. Overview of topics that may be covered in greater depth in subsequent seminars. Special attention will be devoted to conceptual and analytical problems associated with the various approaches, with emphasis on the criteria of suitable research designs. Required of all students with a Ph.D. concentration in international studies.

568-3 Research Problems in International Studies. Discussion, design and execution of research projects on non-state, sub-national, national, and supra-national actors and processes that have transnational or world systemic consequence. Required of all students with a Ph.D. concentration in international studies. Prerequisite: 560 and 570 or consent of the director of graduate studies.

569-3 to 6 (3,3) Topical Seminar in Comparative Politics. Topic will vary with instructor. Student should see director of graduate studies for advance syllabus. Prerequisite: basic courses, related training and consent of instructor.

570-3 Pro-Seminar in International Relations and Politics. Survey of the major literature in international relations and politics at the graduate level. Overview of topics that may be covered in greater depth in subsequent seminars. Special attention to conceptual and analytical problems associated with the various approaches, with emphasis on the criteria of suitable research designs. Required of all students with a Ph.D. concentration in international studies.

573-3 Seminar in International Organization. Student should see director of graduate studies for advance syllabus.

575-3 Seminar in International Law. Student should see director of graduate studies for advance syllabus.

577-3 to 6 (3,3) Topical Seminar in Foreign Policy. Topic will vary with instructor. Student should see director of graduate studies for advance syllabus. Prerequisite: basic courses, related training or consent of instructor.

580-3 to 6 (3,3) Topical Seminar in International Relations. Topic will vary with instructor. Student should see director of graduate studies for advance syllabus. Prerequisite: basic courses, related training or consent of instructor.

590-1 to 6 Readings. Supervised readings in selected subjects. Prerequisite: completion of the appropriate pro-seminar for the field in which readings or individual research is to be done.

591-1 to 6 Individual Research. Selection, investigation & writing of a research paper under the personal supervision of a member of the department graduate staff. Prerequisite: completion of appropriate pro-seminar for the field in which readings or individual research is to be done.

593-1 Preprofessional Seminar in Political Science. Designed to give the student an introduction to the major professional roles in the discipline. The requirements of teaching, research, publication and service are covered with discussion of where each fits into the professional role requirements and examples of how each is accomplished. Required of all Ph.D. and M.A. students in political science and other teaching assistants in political science. Graded *S/U* only.

595-1 to 6 Internship in Public Affairs. Fieldwork in the office of a governmental or quasi-governmental agency. The internship is arranged by the field coordinator of the M.P.A. degree program and provides a stipend as negotiated by the coordinator and agency representative. A paper in which the student correlates academic knowledge with practical internship experience is required. Mid-career M.P.A. students may receive credit upon completion of a paper relating previous work experience to public administration literature and theory. Prerequisite: consent of department. Graded *S/U* only.

596-1 to 6 Research Paper in Public Affairs. Upon successful completion of core courses, the student expands and develops a previously written MPA graduate program paper. The project involves an issue or problem in public administration and is written with the approval and under the supervision of the student's committee chair. Graded *S/U* required. Prerequisite: consent of department.

599-1 to 6 Thesis. Maximum of six hours to be counted toward a degree. Prerequisite: consent of instructor.

600-1 to 36 (1 to 12 per semester) Dissertation. Minimum of 24 hours to be earned for the Doctor of Philosophy degree.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Psychology

E-mail: gradpsyc@siu.edu

COLLEGE OF LIBERAL ARTS

- Berenbaum, Sheri A.**, Professor, Ph.D., University of California-Berkeley, 1977; 1995. Developmental neuropsychology, behavior genetics, development of sex-typed behavior, biological and social influences, statistics.
- Brutten, Gene J.**, Professor, *Emeritus*, Ph.D., University of Illinois, 1957; 1957.
- Buck, Terence D.**, Associate Professor, Ph.D., University of Missouri, 1968; 1969. Counseling and psychotherapy, group process and group dynamics, management of psychological services.
- Cashel, Mary Louise**, Assistant Professor, Ph.D., University of North Texas, 1997; 1997. Clinical, adolescent and child, pathology, assessment, and cognitive-behavioral therapy.
- Chwalisz, Kathleen**, Assistant Professor, Ph.D., University of Iowa, 1992; 1992. Counseling, health psychology, neuropsychology, group process and intervention, personality.
- Corcoran, Kevin**, Associate Professor, Ph.D., University of Connecticut, 1984; 1988. Clinical, Applications of social learning theory to addictive behaviors, family therapy.
- DiLalla, David**, Associate Professor, Ph.D., University of California, 1989; 1990. Personality and psychopathology, personality assessment, computer assisted assessment, behavioral genetics, sexual violence, social development.
- DiLalla, Lisabeth**, Assistant Professor, Ph.D., University of Virginia, 1987; 1992. Experimental developmental, behavioral genetics, social cognition.
- Dillon, Ronna**, Professor, Ph.D., University of California, Riverside, 1978; 1978. Experimental human psychosociology, cognitive assessment, life span, cognitive development.
- Dollinger, Stephanie M. C.**, Associate Professor, Ph.D., Syracuse University, 1989; 1989. Life-span development, cerebral asymmetries, aging and cognition, skilled visual processing.
- Dollinger, Stephen J.**, Professor, Ph.D., University of Missouri, 1977; 1977. Clinical, psychotherapy, personality, child-clinical.
- Ehrenfreund, David**, Professor, *Emeritus*, Ph.D., State University of Iowa, 1947; 1962.
- Espy, Kimberly Andrews**, Ph.D., University of Houston, 1994; 1996; Experimental, clinical neuropsychology - infant and child, neurocognitive development, substance abuse and treatment, intervention in at-risk infants and children.
- Gannon, Linda**, Professor, Ph.D., University of Wisconsin, 1975; 1975. Clinical, feminist psychology, depression, biological rhythms, attributions.
- Gilbert, Brenda O.**, Associate Professor, Ph.D., University of Florida, 1985; 1986. Clinical, child behavior therapy, pediatric psychology, child abuse.
- Gilbert, David G.**, Associate Professor, Ph.D., Florida State University, 1978; 1985. Clinical, cerebral asymmetries, substance abuse, state-dependent motivation, marital research, smoking, psychophysiology, personality, emotions.
- Graham, Jack W.**, Professor, *Emeritus*, Ph.D., Purdue University, 1951; 1951.
- Guthrie, Robert V.**, Professor, *Emeritus*, Ph.D., U.S. International University, 1970; 1991.
- Hetherington, John**, Assistant Professor, Ph.D., 1992, University of Arizona, Experimental, applied experimental, cognitive, environmental.
- Jensen, Robert**, Associate Professor, Ph.D., Northern Illinois University, 1976; 1981. Biopsychology, psychopharmacology, developmental psychobiology.
- Kelley, Noble H.**, Professor, *Emeritus*, Ph.D., State University of Iowa, 1936; 1951.
- Lit, Alfred**, Professor, *Emeritus*, Ph.D., Columbia University, 1948; 1961.
- McHose, James H.**, Professor, *Emeritus*, Ph.D., University of Iowa, 1961; 1961.
- McKillip, John A.**, Professor, Ph.D., Loyola University of Chicago, 1974; 1975. Experimental, counseling, program evaluation, need assessment, health promotion programming.
- Meltzer, Donald**, Professor, Ph.D., University of Pittsburgh, 1963; 1966. Experimental, learning instrumentation, psychopharmacology.
- Mitchell, Thomas O.**, Associate Professor, *Emeritus*, Ph.D., University of Colorado, 1969; 1968.
- Molfese, Dennis L.**, Professor, Ph.D., Pennsylvania State University, 1972; 1972. Experimental, developmental biopsychology, developmental neurolinguistics, psycholinguistics, cognition.
- Molfese, Victoria J.**, Professor, Ph.D., Pennsylvania State University, 1974; 1972. Experimental, developmental biopsychology, cognition, aging, perinatal risk, infant behavioral and neuroelectrical assessments.
- O'Donnell, James P.**, Associate Professor, Ph.D., University of Pittsburgh, 1965; 1965. Clinical, child psychopathology, clinical neuropsychology.
- Pitz, Gordon F.**, Professor, *Emeritus*, Ph.D., Carnegie Institute of Technology, 1963; 1963.
- Purcell, Thomas D.**, Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1965; 1960. Personnel psychology.
- Radtke, Robert C.**, Associate Professor, Ph.D., State University of Iowa, 1963; 1966. Experimental, memory, cognitive processes, aging.
- Ramanaiah, Nerella**, Professor, Ph.D., University of Oregon, 1971; 1971. Experimental, clinical personality assessment, test theory, quantitative methods.
- Ringuette, Eugene L.**, Associate Professor, *Emeritus*, Ph.D., Purdue University, 1963; 1967.
- Sagrestano, Lynda M.**, Assistant Professor, Ph.D., University of California, Berkeley, 1993. Experimental, applied social psychology, health psychology, prevention of high risk sexual behavior, psychosocial factors affecting pregnancy, and power and conflict in relationships.

Schill, Thomas R., Professor, Ph.D., Oklahoma State University, 1963; 1963. Clinical, personality theory and dynamics, personality evaluation, rational emotive psychotherapy.

Schmeck, Ronald R., Professor, Ph.D., Ohio University, 1969; 1969. Experimental, teaching methods, individual differences in learning, learning style, cognitive style.

Shea, Sandra, Associate Professor, Ph.D., Vanderbilt University, 1980; 1988. Experimental, vision, sensation, and perception.

Shoemaker, Donald J., Professor, *Emeritus*, Ph.D., Ohio State University, 1955; 1960.

Small, Mark A., Associate Professor, J.D., Ph.D., University of Nebraska, 1990; 1990. Experimental.

Smith, Douglas C., Associate Professor, Ph.D., Kansas State University, 1977; 1978. Experimental, biopsychology, neurophysiology, vision, development, learning and memory.

Snyder, John F., Associate Professor, Ph.D., Loyola University, 1965; 1968. Counseling, crisis intervention, consultation, supervision, rural drug abuse prevention programming, counseling evaluation research.

Stockdale, Margaret, Associate Professor, Ph.D., Kansas State University, 1990; 1990. Experimental, industrial/organizational, gender bias in personnel decisions.

Swanson, Jane L., Associate Professor, Ph.D., University of Minnesota, 1986; 1986. Counseling, career choice and development, measurement of vocational interests, counselor training.

Taub, Diane E., Associate Professor, Ph.D., University of Kentucky, 1986; 1987. Experimental.

Tinsley, Howard E.A., Professor, Ph.D., University of Minnesota, 1971; 1973. Counseling, career counseling, psychological measurement, leisure activities, personality.

Vaux, Alan, Professor and *Chair*, Ph.D., Trinity College, 1979; Ph.D., University of California/Irvine, 1981; 1980. Clinical, applied experimental, community psychology, social support and stress, personality problems, close relationships, violence, prevention, social interventions.

Westberg, William C., Professor, *Emeritus*, Ph.D., Pennsylvania State University, 1948; 1952.

Yanico, Barbara, Associate Professor, Ph.D., Ohio State University, 1977; 1978. Counseling, psychology of women, sex roles, counseling theories, vocational development, employee relations.

The Department of Psychology offers graduate work leading to the Master of Arts, Master of Science, and Doctor of Philosophy degrees with a major in psychology with concentrations in the following areas: experimental, clinical, and counseling psychology. The primary emphasis is on doctoral training, for which the master's degree is a prerequisite.

The goal of graduate study in the Department of Psychology at SIUC is to develop psychologists who will have a broad perspective and scientific sophistication as well as the requisite skills to advance the field of psychology and meet changing needs. The program emphasizes formal course work in the core curriculum and in the concentrations, preprofessional activities in training assignments, research, and practicum opportunities.

Admission and Advisement

Separate application forms must be submitted to the Department of Psychology and to the Graduate School. Graduate School and departmental application forms may be obtained from the Department of Psychology. Separate forms are not required for application for financial assistance, except for Graduate School fellowships. Students will be accepted for graduate work in psychology only upon approval by the departmental admissions committee as well as the Graduate School. Evaluations of applicants by the departmental admissions committee are based on information from the application form, GRE scores, transcripts, and letters of recommendation.

A non-refundable application fee of \$20.00 must be submitted with the application. Attach your check or money order, payable to Southern Illinois University, to the top of the application form. Do not send cash. Only checks or money orders payable to United States banks will be accepted.

Upon admission to the department, each student is assigned to a faculty adviser, who assists in academic matters, including the planning of the student's program of study: required courses, planned electives, anticipated dates for fulfillment of specified requirements, etc.

A new adviser may be assigned to a student for 2 reasons: (a) the student or adviser may request a change of adviser; (b) the student may change to a different major area. Requests for a change of adviser should be made in writing to

the student's major area committee. To change majors, the student should petition the area subcommittee of the new major.

Core Curriculum

All students must complete the following minimum requirements which may be supplemented by requirements specific to concentration areas.

1. two of three courses from 522, 524, and Educational Psychology 507.
2. 509 for students who have not completed a course in the history and systems of psychology.
3. thesis (599) registration; students enrolled in the master's degree program should complete the thesis requirement (599, 4–6 hours) by the end of the second year.
4. one course from each of the four core coverage areas specified by the American Psychological Association. A list of course which meet core coverage requirements is maintained by the department.

Areas of Concentration

EXPERIMENTAL PSYCHOLOGY CONCENTRATION

The Experimental Psychology program provides students with thorough training in theory and research methods applicable to the study of behavior. The program is designed to provide a variety of career paths for research and teaching in academic and nonacademic settings. The student emphasizes one of three areas: applied experimental psychology, biopsychology of learning and memory, and life span developmental psychology. In addition to general departmental requirements (including PSYC 522 & 523), students in experimental psychology take a course in computer programming and must register for research credit (PSYC 593, 599, or 600) during all but the first 2 semesters of residence.

Students in *Applied Experimental Psychology* specialization take the following courses: PSYC 524, 569, and either 565 or 568. Also they must choose two from the following measurement courses: 525, 527, 542, 547, 564, 585 (when approved by faculty), and EPSY 507. Students in the Applied Experimental Psychology program also are required to take an additional computer course or equivalent and develop a *specialization* consisting of five related courses with at least one being a psychology course. PSYC 571 should be taken during the first semester in residence, and 569 during the second, third, and fourth years.

Students in the *Biopsychology of Learning and Memory* specialization take PSYC 510, 511, 514, and courses in animal models of human memory and neuroanatomy. Students take 3 additional courses or seminars in the biological bases of behavior and/or learning and memory.

Students in the *Lifespan Developmental Psychology* specialization take PSYC 551, 554, either 514 or 515, and 5 additional approved courses or seminars presenting the biological, cognitive, and perceptual aspects of human development. The additional course work must emphasize at least 2 of the major developmental periods: infancy/childhood, adolescence, and adulthood/old age.

CLINICAL PSYCHOLOGY CONCENTRATION

The Clinical Psychology program, approved since 1961 by the Accreditation Committee, Education Directorate of the American Psychological Association, is designed to train clinical psychologists for careers in clinical service, teaching and research. In addition to completing a required departmental core (designed in accordance with APA accreditation and state licensing board requirements), students take required courses in clinical skills, psychopathology, assessment, therapy, and ethical/professional issues (PSYC 594C, 535 or 432, 540A & B, 530, and 598).

Students in the *Adult Clinical Psychology* specialization take required courses in experimental approaches to personality and experimental approaches to psy-

chotherapy (532 and 539), and several electives focusing on assessment and treatment. Students in the Child Clinical Psychology specialization take two required developmental psychology courses (one of which usually fulfills a core requirement), and several courses in child assessment plus child and family treatment (543, 556, 557, and 559).

COUNSELING PSYCHOLOGY CONCENTRATION

The counseling psychology program, approved by the Accreditation Committee, Education Directorate, of the American Psychological Association, is designed to teach students a wide range of skills which will prepare them to function as scientist-practitioners. Graduates are qualified for employment in a university setting (either in an academic department or a counseling center), in hospitals, community agencies, and educational and correctional institutions. The student is expected to develop competence in counseling, psychological assessment, research, and teaching. The required courses are as follows: 523, 526, 530, 536, 538, 540a, 547, 548, 553, 558, 594f, and 598.

Research, Practicum, and Training Assignments

Research or practica are required in each area of concentration. In addition, each term the student must be engaged in a training assignment which supplements formal course work by professional activities such as research, teaching, or clinical service. The assignment varies according to the needs, professional goals, and competencies of the student, and increases in responsibility as the student progresses. The assignments require from 10 to 20 hours of service per week. This is a degree requirement of all students each term and is independent of any financial support. Therefore, each term the student signs up for one hour of 597.

Master's Degree Requirements

The master's degree requires a minimum of 48 semester hours of acceptable graduate credit, distributed according to the requirements of the student's major area, and the completion of an approved thesis. The master's thesis may be either original research or the replication of an important study. The master's degree is a prerequisite for the doctorate.

Doctoral Requirements

Admission. Admission to the Ph.D. program requires a master's degree, a grade point average of 3.25 or above in graduate studies, and acceptance by the department. A student who receives the master's degree from SIUC must apply formally to the Graduate School for admission to doctoral-level study, and must be approved by the faculty.

Records of students entering the program with a master's degree from another institution are evaluated by the departmental admissions committee which notes deficiencies, recommends methods for removing them, and specifies a time limit to do so. Such deficiencies must be removed before the student can be classified as a Ph.D. candidate. The student is recommended to the graduate dean for admission to Ph.D. candidacy only when core curriculum requirements and the preliminary examination(s) have been satisfactorily completed.

Accelerated Entry into Ph.D. Degree Program. Students enrolled in the M.A. degree program may be admitted directly to the Ph.D. degree program following departmental certification of graduate work comparable to a master's degree in psychology at SIUC. Accelerated entry is acceptable only for students who have completed substantial work in other programs in psychology which grant the Ph.D. degree but not a master's degree. Students seeking accelerated entry may apply after enrollment at the master's level for one semester. Applications for

accelerated entry are reviewed and decided by a faculty committee appointed by the department chair.

Internship. Doctoral students who are concentrating in counseling or clinical psychology must complete an APA-approved internship. The internship is viewed as an integral part of training and the Ph.D. degree is not awarded until the completion of all academic work and the internship. Students are responsible for scheduling and obtaining internships. Internships in counseling and clinical psychology require a full-time experience either for one calendar year, or for two years of half-time experience. Counseling and clinical students are approved for internship after completion of their master's degree, major and minor preliminary examinations, and all courses required for the Ph.D.

Students in applied experimental psychology are encouraged to complete an internship in an applied setting away from campus that is selected with the help of their faculty advisers in their major area of concentration.

Preliminary Examinations. Ph.D. candidacy is contingent upon successful completion of a written preliminary examination in the student's major area of concentration. The examination is composed primarily of essay questions requiring substantive knowledge of empirical and theoretical topics. Questions are not limited to course content.

Every student is expected to pass each examination on first taking. In any event a second failure on a preliminary examination will result in a thorough faculty review of the student's entire academic record in order to determine whether the student will be allowed to continue in the program and, if continued, under what conditions.

Major/Comprehensive. Fields of concentration for the major/comprehensive preliminary examination are listed below:

1. *Experimental.* Any one field from the following may be selected for the comprehensive examination: applied experimental, biopsychology of learning and memory, life-span developmental.
2. *Clinical.* The major examination includes the following: psychological assessment, psychotherapy, psychopathology, and personality. In addition for the student, the examination reflects the specialization emphasis, i.e., general, child, or experimental.
3. *Counseling.* The major examination includes the following areas: (a) adult personal, social, and career development, (b) assessment, (c) group and individual counseling theories and techniques, (d) research methodology and measurement, and professional issues.

Major/comprehensive examinations are scheduled by the department once a term, ordinarily within the first 2 weeks. Notices are posted well in advance and students are expected to notify the graduate secretary of their intention to take the examination. Examination committees are appointed by the chair.

Minor/Specialization. In addition to the major/comprehensive preliminary examination, a minor/specialization preliminary examination may be required or optional in the student's concentration area.

Dissertation. Each candidate for the Ph.D. degree must write a dissertation showing high attainment in independent, original scholarship and creative effort. A total of 24 semester hours is required. A maximum of 8 hours of dissertation credit may be taken subsequent to passing the minor preliminary examination and prior to passing the major preliminary examination. A student may not hold a prospectus meeting before successful completion of both minor and major examinations.

Thesis and Dissertation Committee

Because the thesis or dissertation project and the proposed committee composition must be formally approved by the department chair, the student should arrange a meeting with the chair well in advance of the prospectus meeting.

A master's thesis committee consists of 3 members including the chair of the committee and a psychology faculty member who is typically from some field other than the student's major area of interest. The Ph.D. dissertation committee consists of 5 members, 1 of whom serves as chair. One of the members must be from a department other than psychology.

Prospectus. Prior to starting the experimental research on a thesis or dissertation, a student must submit a written prospectus to each member of the committee. A carefully written prospectus ordinarily serves as the opening chapters of the thesis or dissertation. The student also prepares an abstract (normally no more than 2 pages) to be posted in the psychology department office one week before the prospectus meeting.

The approval of the prospectus indicates that the committee members accept the research design. Faculty members not on the committee may attend the prospectus meeting, or may forward suggestions and comments to the committee chair prior to the meeting. Prospectus meetings are not scheduled during the recess period between semesters.

If the prospectus is approved with no major modifications, one copy of the prospectus and a letter of approval, noting any minor modifications are sent by the committee chair to the department chair for filing in the student's permanent records. If major modifications are needed, the student may be asked to rewrite the prospectus, circulate the revised prospectus, arrange another committee meeting, and then file the revised prospectus as above. A prospectus must be approved at least one semester before graduation.

Style. The student has the option of writing the thesis or dissertation in the traditional fashion or in journal style. In the latter case, ancillary material (full survey of literature, subsidiary analyses, etc.) are placed in the appendices, although figures and tables appear in the text. The psychology department prefers that citations, table headings, etc. follow the APA style (*Publication Manual of the American Psychological Association*, 1983 revision, Washington, D.C.).

General Procedures. Students should not register for 599 or 600 hours until they have supervisors and will actually be using university facilities, or faculty time for assistance and direction.

Prior to graduation (a minimum of 5 weeks for master's students and 8 weeks for doctoral students) the candidate must submit a final rough draft of the thesis or dissertation to the full committee so that appropriate suggestions can be made. At least one week usually expires between the submission of the rough draft and the oral examination.

Number of Copies. Four copies of the complete thesis or dissertation are required: two copies are submitted to the Graduate School for placement in the University library, and two bound copies—one for the committee chair, and one for the departmental thesis and dissertation library.

Oral Examination

The Department of Psychology requires an oral examination, conducted by the student's thesis or dissertation committee, for each M.A. and Ph.D. candidate. The examination covers the thesis or dissertation and also includes questions designed to ascertain the student's general competence in psychology.

Oral examinations are open to all interested observers. Notices of the time and place of the examination, and abstracts of the thesis or dissertation, are circulated throughout the department and, in the case of Ph.D. examinations, throughout the University. Two copies of the abstract should be given to the graduate program secretary.

The candidate obtains copies of the oral examination form and the thesis or dissertation evaluation form from the graduate program secretary, and delivers them to the committee members on the day of the orals. Orals meetings are not scheduled during the recess period between semesters.

General Information

Waiving of Course Requirements. Students who wish to have a course waived should consult with their advisers, the course instructor, and the head of their major area. One of the following recommendations will be made: (a) the course will be waived; (b) a proficiency examination (theoretical, practical, or both) will be given prior to deciding on the student's request; (c) the request will be refused and the student will take the course. A student may appeal the decision by writing a letter to the department chair requesting that the case be reviewed.

Grading Policies. Any student who receives a grade of *Inc.* is responsible for contacting the instructor to determine the time allowed for the completion of the course (normally not more than one year).

For internal records to be used within the department only, pluses and minuses are added to the standard *A, B, C* grades reported to the Office of Admissions and Records.

Student Evaluation. All students are evaluated by the faculty at least once a year, normally during fall semester. New students are evaluated in the beginning of spring semester (first year) and students on departmental probation at times specified in their probation. The evaluation is based on the following criteria: (1) academic performance on a ten point rating scale ($A^+ = 10$); (2) ratings on the training assignment; and (3) progress toward the degree. The student's evaluation may also be based upon evidence relating to professional attitudes or ethical behavior.

Each student's adviser informs the student of the evaluation and of any faculty recommendations as soon as possible after the meeting. In addition, the department chair writes a formal letter notifying the student of the evaluation and recommendations.

Courses (PSYC)

407-3 Theoretical Issues in Learning. An introduction to the major theoretical issues in learning and their importance. A brief review of the history of such problems will be followed by a summary of the current research concerning these issues. Traditional figures in learning theory will be considered within the context of their positions on specific questions. Prerequisite: 211 and 309 or equivalent, or graduate status.

409-3 History and Systems of Psychology. A review of the conceptual and empirical antecedents of modern psychology. Prerequisite: 211 and senior status or graduate status.

411-3 Principles of Training. An in-depth coverage of practical problems concerned with training to which the principles of learning derived from pure laboratory investigations can be applied. Prerequisite: 211 and 309, or graduate status.

413-3 Individual Differences. Reviews the reliable and theoretically significant individual and group differences that have been revealed by research in the behavioral sciences. Examines differences in general intelligence, specific verbal and spatial abilities, stylistic and personality characteristics, as well as such group differences as sex, race and socioeconomic status. Prerequisite: 211 and 305, or graduate status.

415-4 Psychopharmacology. A survey of the effects of drugs on the normal and abnormal behavior of humans and animals. A primary focus is upon understanding drug influences on behavior in relation to actions on the nervous and endocrine systems. Prerequisite: 211 and 302 or graduate status.

416-3 Recovery of Function Following Brain Damage. A survey of experimental animal and human clinical research as they relate to behavioral recovery following damage in the central

nervous system. Recent theories and literature are stressed. Prerequisite: 211 and 302, or graduate status, or consent of instructor.

419-3 Behavior and Heredity. Provides an overview of the experimental and quantitative methods used in studying behavioral differences associated with genetic variables. Elementary aspects of genetics will be included in the course, which will examine several aspects of both human and nonhuman behavior. Prerequisite: 211 or consent of instructor, or graduate status. Zoology 214, Biology 305 or equivalent recommended.

420-3 Advanced Industrial and Organizational Psychology. Advanced examination of topics in industrial and organizational psychology focusing more heavily than Psychology 320 on applications of psychology to human resource management, such as job analysis, performance appraisal systems, personnel selection and training. In addition to exams covering content, students are required to apply knowledge and skills learned on individual and group projects. Prerequisite: 211.

421-3 Psychological Tests and Measurements. Introduction to test theory and test development. Detailed coverage of selected tests from such areas as intelligence, aptitude and personality. Prerequisite: 211 or graduate status.

431-3 Psychopathology. A comprehensive overview of major psychological problems, including emotional, personality, psychotic and developmental disorders. Problems will be described in terms of their principal features, and research and theory will be reviewed. Strategies of assessment, the utility and limitations of diagnostic systems, alternative views of abnormality and clinical research methods will be examined. Prerequisite: 211 and 305, consent of instructor or graduate status.

432-3 Psychopathology of Childhood. An extensive review and systematic evaluation of theories and research pertaining to the behavior disorders of childhood. Emphasis will be upon empirical data and the implications of these data for the classification and treatment of these disorders. Prerequisite: 211 and 301 or graduate status.

440-3 Theories of Personality. A review and evaluation of major personality theories and their supporting evidence. Prerequisite: 211 and 305 or graduate status or consent of instructor.

441-3 Helping Skills in Clinical and Counseling Psychology. Provides systematic training in helping skills for students considering clinical or counseling psychology as a career. Students learn to identify and demonstrate such skills as paraphrasing, reflection of feeling, interpretation, and confrontation and will use them in practice situations. Prerequisite: 211 and 340 and senior standing in psychology major.

445-4 Psycholinguistics. (Same as Linguistics 445.) A broad spectrum introduction to psycholinguistics. Topics to be covered include general methodology for the study of psycholinguistics, the nature of language, theories of human communication, language comprehension and production, first and second language acquisition, meaning and thought, natural animal communication systems, and language and the brain. Prerequisite: 211.

451-3 Advanced Child Psychology. An assessment of concepts, methods and research techniques within selected topic areas of developmental psychology. Prerequisite: 211 and 301 or graduate status or consent of instructor.

463-3 Attitudes and Persuasion. An examination of theory and research regarding the formation of attitudes, the modification of attitudes, and the techniques for measuring attitudes. Prerequisite: 211 and 307 or graduate status.

464-4 Social Factors in Personality and Adjustment. (Same as Sociology 426) Review of selected theoretical orientations and research traditions in social psychology. Comparison of different theoretical and methodological approaches: symbolic interaction, role theory, developmental and social psychology, theories of attitude organization and change, studies of belief and value systems, theories of socialization. Prerequisite: 211 and 307.

465-3 Needs Assessment Techniques for Mental Health Planning. Surveys methodological techniques for assessing the need for mental health services including developing a resource inventory, use of census and other social indicator data, rates under treatments, community and consumer surveys, hearing and site visits. Attention is also paid to method of presenting results of need assessments to lay boards. Prerequisite: 211 and senior standing in psychology or graduate status or consent of instructor.

489-1 to 12 Seminar: Selected Topics. Varied content. Offered as need exists and as faculty interests and time permit. Prerequisite: 211 and consent of instructor.

503-3 Individual Differences. Reviews the reliable and theoretically significant individual and group difference that have been revealed by research in the behavioral sciences. Examines differences in general intelligence, specific verbal and spatial abilities, stylistic and personality characteristics, as well as such group differences as sex, race and socioeconomic status. Prerequisite: graduate status in Psychology.

509-3 History and Systems of Psychology. A review of conceptual and empirical antecedents of modern psychology. Students research and summarize topics on 20th Century systematic developments. Prerequisite: graduate status in Psychology.

510-3 Learning Processes. Reviews current literature in various areas of learning. Coverage is limited to those topics which are subject to laboratory investigation and which do not involve verbal processes.

511-3 Human Learning and Memory. Survey of the current experimental theoretical literature on human learning and memory with primary emphasis on verbal learning and memory. Prerequisite: consent of instructor.

512-4 Sensory Processes. A study of the structure and functions of the sense organs. Emphasizes the psychological data which describe the function of these organs. Lecture and laboratory. Prerequisite: consent of instructor.

513-3 Human Psychophysiology. Physiology, instrumentation, and methodology of psychophysiological measurements including both autonomic and central nervous systems. Attention will be

given to basic and applied research. Prerequisite: graduate standing.

514-4 Neurobiological Bases of Behavior. An advanced study of neuroanatomical and neurophysiological principles underlying behavior. Topics covered include structure and function of neurons, synaptic transmission, sensory processing, motor control, development and plasticity of the nervous system and other current topics in neurobiology. Prerequisite: 302 or equivalent and consent of instructor.

515-3 Theory and Research in Cognitive Psychology. A detailed survey of current studies of attention, short-term memory and thought processes. Prerequisite: consent of instructor.

516-3 Human Clinical Neuroanatomy. Basic functioning of the nervous system, detailed gross anatomy and dissection of the human brain, functional disorders following brain damage, noninvasive cranial nerve examination. Prerequisite: graduate standing.

517-3 Aging, Memory and Cognition. A detailed survey of current methodology, research and theory dealing with cognitive and memory processes in later adulthood. Topics covered include attention, memory, reasoning and problem solving, language processing and inference and age-associated pathologies affecting cognition and memory. Prerequisite: consent of instructor.

518-4 Psychopharmacology and Behavior. A detailed survey of the effects of drugs on the normal and abnormal behaviors of human and animals. A primary focus is upon understanding drug influences on behavior in relation to actions on the nervous system, endocrine system and behavior pathology. Students review and summarize original research in the area. Prerequisite: graduate status in psychology or permission of instructor.

519-3 Research on Individual Difference. Reviews the reliable and theoretically significant individual and group differences that have been revealed by research in the behavioral sciences. Examines difference in general intelligence, specific verbal and spacial abilities, stylistic and personality characteristics, as well as such group differences as gender, race and socioeconomic status. Students review and summarize original research in the area and lecture on that topic. Prerequisite: graduate status in psychology or permission of instructor.

520-3 Applications of the Psychology of Learning and Memory. A survey of the theories and methods of training that have resulted from research in the areas of learning and memory. Students will review some of the very recent methods as well as those that are better developed. Practice will be provided. Prerequisite: 309 or consent of instructor.

522-4 Experimental Design and Analysis. In-depth coverage of the rationale underlying the design and analysis of complex experimental designs used in psychological research. Prerequisite: psychology graduate student or consent of instructor.

523-3 Research Methods in Applied & Professional Psychology. Discussion of problems of experimental and quasi-experimental design, control and analysis that are encountered by researchers in applied and professional psychology.

The course covers critical evaluation of internal, construct, and external validity and the application of randomized and non-randomized designs for causal inference. Passive-observational and qualitative designs are covered at the instructor's discretion. Examples of current research practice from applied, counseling and clinical psychology are reviewed. Prerequisite: graduate status in psychology or consent of instructor.

524-3 Multivariate Methods of Psychology. Detailed treatment of multiple-factor analysis and multiple regression analysis. Also includes introduction to other multivariate methods such as discriminant analysis and cluster analysis. Prerequisite: 522b and Psychology graduate status.

525-3 Mental Test Theory. Intensive coverage of such topics in test theory as item analysis, reliability, validity, problems of weighting in differential prediction, and problems in selection and classification. Prerequisite: 421 or consent of instructor.

526-3 Research in Counseling Psychology. This course provides a basic foundation of research skills. The course includes extensive reading in counseling psychology research and coverage of research design, specific research techniques, technical writing and research ethics.

527-3 Theory and Methods of Scaling. The theory of measurement, by which observed behavioral events can be translated into quantitative scales of psychological constructs. The course will cover several axiom systems that form the foundation for psychological measurement, including representation in more than one dimension. Prerequisite: 522b.

528-3 Decision Analysis: Techniques for Aiding Decisions. A survey of formal methods for making decisions, based on subjective probability and multiattribute utility assessments. Students will be given practice in using methods of decision analysis for solving decision problems. Prerequisite: 522a or consent of instructor.

530-3 Theories of Counseling and Psychotherapy. A survey of the major theories of personality and systems of counseling and psychotherapy. Stresses relationship between theory and application. Prerequisite: consent of instructor.

531-3 to 6 Community and Institutional Field Placement. Introduction to a variety of area agencies with each student affiliating with two agencies at least two days per week. Individual and group supervision with special attention to the variety of clinically related problems and approaches to treatment encountered in the course of their activities. Required for clinical students. Prerequisite: 530b, psychology graduate in clinical or counseling.

532-3 Experimental Approaches to Personality. Presentation of conceptual formulations and research data from representative experimental approaches to personality. Students will be expected to carry out a research project during the course. Prerequisite: 530a or consent of instructor.

533-2 Experimental Approaches to Psychopathology. An examination of the research literature on several issues in clinical psy-

chopathology. Prerequisite: psychology graduate or consent of instructor.

534-3 Principles of Behavior Therapy. (Same as Rehabilitation 554.) A presentation of the clinical techniques and research findings associated with the various behavior therapies (including desensitization, assertive training, modeling, operant techniques, aversive conditioning, "cognitive" behavior therapy). Prerequisite: graduate standing in the Psychology Department (clinical/counseling) or consent of instructor.

535-3 Psychopathology. Surveys the following issues and content areas in psychopathology: models and definitions of psychopathology, anxiety states, depression, schizophrenia, neurosis, behavior genetics, the mental hospital and the classification of psychopathology. This course required for all clinical students within their first two years. Prerequisite: psychology graduate student or consent of instructor.

536-4 Fundamentals of Counseling. An introduction to counseling psychology as a professional specialty. Professional and ethical issues in the training and work of counseling psychologists are examined. Basic counseling skills are acquired through practice interviewing. Prerequisite: psychology graduate student or consent of instructor.

538-3 Theory and Practice of Group Facilitation. Didactic presentation of group dynamics and group counseling/therapy. Theories coordinated with facilitation of Psychology 101 groups. Prerequisite: graduate status.

539-3 Experimental Approaches to Psychotherapy. A review and evaluation of empirical research related to the amelioration of maladjustment. Emphasis is on measurement and methodological problems. Prerequisite: 530 or consent of instructor.

540-7(4,3) Psychological Assessment. Basic theory, practice, underlying assumptions and research data on psychological assessment. (a) Objective psychological assessment. Methods include intelligence testing, objective personality scales, interviews and observations. Includes one hour laboratory section. (b) Projective psychological assessment. Methods include the Rorschach Inkblot technique and Thematic Apperception Test. Prerequisite: psychology graduate status.

542-3 Principles and Problems in Personality Assessment. Critical review of research related to such topics as scale construction strategies, response styles, trait attribution, judgmental accuracy, and judgmental processes. Prerequisite: consent of instructor.

543-3 Advanced Child Assessment. Basic theory, research, and practice in the psychological assessment of children's learning and emotional problems. Prerequisite: 540a, consent of instructor and psychology graduate standing.

544-3 Advanced Adult Assessment. Practical experience at conceptualizing psychopathology from a standard clinical test battery and in writing clinically meaningful test reports. Prerequisite: 540a, 540b, consent of instructor and Psychology graduate standing.

545-3 Introduction to Neuropsychological Assessment. Overview of the development of neuropsychology from signs to test batteries and methodology. Prerequisite: 540a, consent of instructor and psychology graduate status.

546-3 Human Clinical Neuropsychology. This course will familiarize students with the basic concepts, empirical foundations, and clinical applications of human clinical neuropsychology. The neurobehavioral manifestations of both acute and chronic conditions will be covered. Prerequisite: 540a, psychology graduate status and consent of instructor.

547-3 Fundamentals of Psychological Measurement. Examination of the fundamental principles and concepts of psychological measurement, including theories of personality and ability structure, test construction and standardization procedures, and conceptions of reliability and validity. Prerequisite: 421 or consent of instructor.

548-3 Vocational Psychology and Career Development. Introduces students to vocational psychology as an area of academic inquiry. The topics covered include theories of career development, occupational information, computer applications, research issues, and vocational counseling techniques. Prerequisite: 547 or consent of instructor.

549-3 Behavioral Assessment. A didactic and practicum course concerned with principles and methods of behavioral assessment including behavioral interviewing, questionnaires, self-monitoring, naturalistic and structured observation and psychophysiological assessment.

550-3 The Psychological Construction of Gender. (See Women's Studies 550).

551-3 Advanced Developmental Psychology I. Studies current research trends in experimental child psychology: an introduction to methods and theory, the biological bases of development, infancy, cognition, perceptual development and language. Prerequisite: consent of instructor.

552-3 Advanced Developmental Psychology II. Consideration of current methods, research, and theory in developmental psychology with particular attention to social and personality development, and parent-child relations. Prerequisite: consent of instructor.

553-3 Cross-Cultural Psychology. Examines different topics in areas such as psychopathology, social and developmental psychology from a cross-cultural perspective. Prerequisite: consent of instructor.

554-3 Developmental Theories. An analysis of contemporary theories of development and related research as they are derived from major historical theories of development. Prerequisite: 551 and consent of instructor.

555-3 Language and Cognition. Current theoretical problems in language and cognitive developments are investigated from the perspective of psychology, physiology, linguistics and computer simulations. Prerequisite: consent of instructor.

556-3 Child Psychotherapy. Survey and analysis of traditional and contemporary approaches to individual child psychotherapy. Includes psychodynamic, humanistic-nondirective, hypnotherapy-imagery and other perspectives as well as therapy outcome research. Prerequisite: consent of instructor and psychology graduate status.

557-3 Family Psychotherapy. Investigation of the psychosocial interior of the family. Evolution and dynamics of interaction in families. Study of the methods of therapeutic intervention with

families. Prerequisite: consent of instructor and psychology graduate status.

558-3 Personality and Social Development of Adults. A lecture-discussion course which presents the major theoretical and empirical literature in the area of adult personality and social development. Students are encouraged to apply normal developmental constructs to understand individual adults, as well as to gain competence in research methods in this area. Prerequisite: psychology graduate student or consent of instructor.

559-3 Behavioral Child Therapy. Survey and analysis of behavioral and cognitive-behavioral approaches to the treatment of child psychopathology. Prerequisite: consent of instructor and psychology graduate status.

560-3 Couples and Marital Therapy. This course is designed to provide doctoral level psychology students the basic theoretical and technical background necessary before beginning to work in supervised marital/couples therapy clinical practice. Prerequisite: Psychology graduate status or consent of instructor.

563-3 Research in Attitudes and Persuasion. Detailed review of current theory and research in social psychology of attitude formation and change and of persuasion techniques. Students will develop literature reviews and conduct original research. Prerequisite: graduate status in psychology or consent of instructor.

564-3 Program Evaluation: Experimental and Quasi-Experimental Approaches. Review of experimental and quasi-experimental designs for assessment of program impact. Discussion of design, logistic, and political implementation problems. Detailed examination of a number of attempts at program evaluation. Prerequisite: 500-level statistics course.

565-3 Research in Organizational Psychology. In depth examination of theoretical and research literature in organizational psychology. Topics include, but are not limited to, theory and research literature on work motivation, job attitudes, leadership, group processes, organizational stress and women and minorities in the work place. Prerequisite: graduate status in psychology or permission of instructor.

567-3 Stress, Coping and Social Support. Overview of theory and research on stress, coping and social support. Emphasis is on psychosocial approaches to the stress process including life events, hassles, work stress, and family stress. Social support also is examined, both as a moderator of stress effects and as a valuable resource in its own right.

568-3 Community Psychology. Comprehensive overview of community theory, research, and action. Topics covered include: (1) paradigmatic assumptions of the community approach to psychosocial problems; (2) basic concepts, models and issues including prevention, paraprofessionals, systems theory, and social context; (3) social intervention strategies; and (4) examination of selected contemporary psychosocial problems. Prerequisite: psychology graduate status or consent of instructor.

569-1 to 3 Applied Research Consultants. Consulting firm which provides applied research experiences for advanced graduate students on

planning, data gathering, evaluation, and decision making projects for units of university and area agencies and businesses. Students exercise decision making power in all aspects of the firm: project solicitation, fee setting, expenditures. Graded *S/U* only. Prerequisite: 571 or consent of instructor.

571-6 (2,2,2) Proseminar in Applied Experimental Psychology. A survey of the problem areas to which applied experimental psychology is applicable and of the principal methods employed by applied experimental psychologists. Integration of these approaches within a comprehensive metatheory. Case studies apply the information to actual and simulated application problems.

576-3 Human Engineering. Analysis of human-machine systems, human factors in the design of display and control systems, limitations and capabilities of the operator. Lecture and research or field study. Prerequisite: consent of instructor.

585-1 to 18 Advanced Seminar. Seminars of varied content for advanced students. Prerequisite: consent of instructor.

586-1 Clinical Research Seminar. Required seminar for students enrolled in the Clinical Psychology program. Prerequisite: Psychology graduate status and classified status in Clinical Program.

590-1 to 12 Readings in Psychology. Readings in selected topics in psychology under staff supervision. Graded *S/U* only. Prerequisite: consent of instructor.

593-1 to 24 Research in Psychology. Research under staff supervision in selected areas of psychology. Graded *S/U* only. Prerequisite: consent of instructor.

594-1 to 16 Practicum in Psychology. Practicum experience in a professional setting is offered under staff supervision in the following areas: (a) Applied experimental psychology; (c) Clinical skills. Introduction to the professional skills and issues of clinical psychology including ethics, interviewing, change processes, diversity issues. (f) Counseling psychology; (l) Teaching of psychology. Graded *S/U* only. Prerequisite: consent of instructor.

595-1 to 12 Internship. Placement in an approved setting required of all students in clinical, bio-clinical, and counseling psychology. Graded *S/U* only. Prerequisite: psychology graduate student.

596-3 Behavior Therapy Practicum. Practicum experiences with a variety of behavior therapies in a variety of settings. Experiences may include operant and nonoperant therapies in the clinic, school, institution, home or community. Prerequisite: 534, 549.

597-1 to 15 Preprofessional Training. Experience given in research, teaching, or clinical or counseling activities. One hour required each semester of residence. Graded *S/U* only. Prerequisite: psychology graduate student.

598-3 Ethical and Professional Problems in Psychology. The code of ethics in professional practice, in teaching and research; problems and issues of the field are discussed; and relations to other professions and the public are considered. Prerequisite: consent of instructor.

599-1 to 6 Thesis.

600-1 to 24 Dissertation.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed

a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Public Administration

E-mail: mpaprog@siu.edu

(See Political Science for program description.)

Radio-Television

E-mail: telecom@siu.edu

(See Telecommunications for program description.)

Recreation

E-mail: mpedigo@siu.edu

COLLEGE OF EDUCATION

Glover, James M., Associate Professor, Ph.D., University of Maryland, 1980; 1984. Outdoor recreation, wilderness preservation, historical research, environmental related research, wilderness leadership.

Glover, Regina B., Associate Professor and Chair, Ph.D., University of Maryland, 1983; 1983. Leisure service administration, leadership personnel, communication and teaching effectiveness.

Malkin, Marjorie J., Associate Professor, Ed.D., University of Georgia, 1986; 1989. Recreation therapy, depression, suicide, substance abuse, counseling techniques, research methods.

McEwen, Douglas N., Professor, Ph.D., Michigan State University, 1973; 1975. Recreation philosophy and history, outdoor recreation resource

management, nature interpretation, campground management, campsite impact.

O'Brien, William, Professor, *Emeritus*, Re.D., Indiana University, 1967; 1948.

O'Dell, Irma, Assistant Professor, Ph.D., University of New Mexico, 1992; 1995. Leisure across the lifespan, community life satisfaction and quality of life, leisure education and aggressive behavior in recreational activities.

Taylor, Loren, Professor, *Emeritus*, Ed.D., Columbia University, 1957; 1957.

Teaff, Joseph D., Professor, Ed.D., Columbia University, 1973; 1980. Therapeutic recreation, community recreation for special populations, recreation in corrections, leisure services with the elderly, administration of therapeutic recreation, research methods.

The Department of Health Education and Recreation offers a broad interdisciplinary program of studies preparing students for administrative careers in recreation management. The program leads to the Master of Science in Education degree with a major in recreation. A non-refundable application fee of \$20.00 must be submitted with the application. (The application can be obtained from the department.) Attach your check or money order, payable to Southern Illinois University, to the top of the application form. Do not send cash. Only checks or money orders payable to United States banks will be accepted.

Master of Science in Education Degree

Graduate work in recreation stresses administration and research and is open to highly qualified students. All students must be admitted to the Graduate School in good standing.

Graduate students in recreation must complete a common core of courses required of all students pursuing the master's degree in recreation. The major requires a minimum of 36 semester hours including REC 599-3 (Thesis), EPSY 506-4 (Inferential Statistics), and three hours of research methods. After the completion of the core, the student will select 17 hours of electives, of which 6 hours must be approved graduate courses in recreation. By utilizing the electives the student can emphasize a specific option or emphasis. This emphasis may include recreation administration, focusing on skills necessary for management of local, state, and federal recreation programs both in the public and

commercial sector; outdoor recreation resource management which focuses on skills necessary to manage or administer programs, facilities and lands in the local, state, and federal park system; or therapeutic recreation which focuses on skills necessary in the management of public and private organizations which provide a diverse array of therapeutic recreation services (this emphasis leads to certification). Variations of these include campus recreation management, expedition leadership, and facility management.

A student must maintain an overall 3.0 (4 point scale) grade point average in order to be eligible for graduation. Upon completion of the required research course, a student should select a chairperson for the thesis committee. A minimum of two additional graduate faculty members, one holding rank outside the faculty of recreation, is needed to form the full committee. After approval of a thesis topic, the student will conduct a research effort under the committee's guidance, followed by an examination covering the thesis.

Major in Recreation

Core requirement for the degree:

Theory Core

REC 500-3 Modern Concepts of Leisure

REC 501-3 Personnel in Leisure Services

REC 508-3 Trends and Global Issues in Leisure Services

Research Methodology Core

REC 550-3 Research in Recreation

Research Core

EPSY 506-4 Inferential Statistics

REC 599-3 Thesis

Total core hours: 19

Elective hours: 17

Total hours required: 36

Courses (REC)

Courses in this major may require the purchase of supplemental materials. Field trips are required for certain courses.

401-3 Fundamentals of Environmental Education. (Same as Agriculture 401.)

423-3 Environmental Interpretation. (Same as Agriculture and Forestry 423.)

425-3 Planning and Design of Recreational Facilities. An examination of major design considerations for a variety of recreation facilities such as recreation centers, recreation sport complexes, parks, visitors centers, and natatoriums. Special attention will be given to long range facility planning. Prerequisite: senior or graduate standing.

431-3 Expedition Leadership. Course focuses on professional leadership of highly adventurous wilderness trips. Emphasis is on development of sound judgment, decision-making, and teaching in wilderness expeditions. Three-to five-week expeditions in a wilderness setting. Trip fee not to exceed \$500. Outdoor Leader certification by Wilderness Education Association is offered.

440-15 (3,3,3,3,3) Therapeutic Recreation for Selected Populations. Students will examine problems and characteristics of individuals with various disabilities. Emphasis is upon the role of therapeutic recreation with these specific populations in institutional and community settings: (a) therapeutic recreation for individuals with psychological disorders, (b) therapeutic recreation

for individuals with developmental disabilities, (c) therapeutic recreation for the aged, (d) therapeutic recreation for those in the criminal justice system, and (e) therapeutic recreation for individuals with physical disabilities. Prerequisite: 300, 302, 304 or consent of department.

445-3 Outdoor Recreation Management. Philosophy and principles underlying the growth and development of outdoor recreation management. Outdoor recreation is examined in terms of historical values, long range planning, site design, visitor needs and environment impact. A laboratory cost of up to \$14 may be required. Prerequisite: 300, 302, 303 or consent of department.

460-3 Therapeutic Recreation Management. Organization and administration of therapeutic recreation programs in hospitals, nursing homes, schools for the retarded, detention centers, prisons and other institutions. Financial management and reimbursement issues are stressed. Prerequisite: 300, 302, 304 or consent of department.

461-3 Program Design and Evaluation for Therapeutic Recreation. To equip the student with skills necessary to systematically design and evaluate programs. Philosophy and nature of systems, system analysis, assessment, individual treatment planning, implementation and evalua-

tion of treatment programs. Prerequisite: 300, 302, 304, one section of 440, concurrent enrollment in 380, or consent of department.

462-3 Facilitation Techniques in Therapeutic Recreation. This course is designed to provide an understanding of the basic processes and techniques of therapeutic recreation and to develop technical competencies necessary for the provision of quality therapeutic recreation services. Emphasis is on the skillful application of various processes and techniques to facilitate therapeutic changes in the client and the client's environment. Prerequisite: 304 or concurrent enrollment.

465-3 Advanced Administrative Techniques. Designed to examine current administrative topics in recreation such as practices and trends in budget and finance, legal aspects, grant writing, personnel practices and policies and others. Prerequisite: 365, 380.

475-3 to 39 (3 per topic) Recreation Workshop. Critical examination and analysis of innovative programs and practices in one of the following areas: (a) Budget and finance, (b) Campus recreation services, (c) Commercial, (d) Maintenance of areas and facilities, (e) Outdoor recreation, (f) Personnel, (g) Technological advances, (h) Therapeutic recreation–aging, (i) Therapeutic recreation–developmental disability, (j) Therapeutic recreation–emotional illness, (k) Therapeutic recreation–physical disability, (l) Therapeutic recreation–prisons and detention centers, (m) Tourism.

485-2 to 12 Practicum in Outdoor Education. A supervised experience in a professional setting. Emphasis on administrative, supervisory, teaching and program leadership in outdoor, conservation, or environmental education setting. Costs for travel are the responsibility of the student. Prerequisite: consent of instructor.

500-3 Modern Concepts of Leisure. This course explores the meaning of leisure, recreation, and play from a philosophical and psychological perspective. The historical and contemporary relationships among work, time, lifestyles and leisure are analyzed. In addition, the course attempts to develop students' viewpoints toward these topics in order that they formulate a philosophy of leisure. Required of all majors.

501-3 Personnel in Leisure Services. This course will examine administrative issues regarding personnel in leisure delivery systems. Topics include: leadership theory, selection and training, legislation, collective bargaining, motivation, performance appraisal, power and gender. Prerequisite: 365.

502-3 Revenue Production for Leisure Service Organizations. An integrative view of revenue production for leisure service organizations. Numerous practices of generating income, such as fees and charges, facility rental, bonds, investments and public/private cooperative development will be examined in relationship to their ability to aid an organization in achieving its stated objectives. Prerequisite: 365.

503-3 Managing and Marketing Leisure Services. An examination of the critical functions of a manager in public and private leisure service organizations. Particular topics include goal and policy development, ethics, risk man-

agement, fiscal management and facility operations. Special attention is given to the leisure service managers role in marketing recreation. Prerequisite: 365.

508-3 Trends and Global Issues in Leisure Services. This course will study the various issues and trends that affect leisure delivery systems. This course will be the culminating seminar for graduate students in Recreation. Prerequisite: 500, 501, 502, 550.

524-3 Professional Skills in Therapeutic Recreation. This course focuses on professional skills necessary at the administrative and supervisory level. Program and staff development, conference presentations, and inservice training, grantsmanship, article writing, budgeting, consultation and public relations comprise the core of the course. Prerequisite: 304, 460 or consent of department.

525-3 Recreation for Special Populations. Planning, organizing, selecting, evaluating, and adapting activities to a variety of institutional and community settings. Prerequisite: 500 or consent of department.

526-3 Seminar in Current Issues in Therapeutic Recreation. This course focuses on current issues in therapeutic recreation services including credentialing, accreditation, professional associations, legislation, research and other relevant issues. Prerequisite: 304 or consent of department.

550-3 Research in Recreation. Critical analysis of the most significant research studies in park and community, special populations, commercial and outdoor recreation. Prerequisite: 500.

560-9 (3 per topic) Seminar in Recreation. Major issues, trends, and cultural, economic and social significance in (a) Park and community, (b) Therapeutic recreation and individuals with disabilities, and (c) Commercial recreation. Prerequisite: 500 or consent of department.

565-3 Environmental Issues in Outdoor Recreation. Seminar in environmental issues and problems that affect outdoor recreation. Content includes history of the environmental movement in relation to outdoor recreation and specific problems affecting recreation on national parks, forest and wildlife refuges.

575-1 to 6 Individual Research. Selecting, investigating, and writing of a research topic under the personal supervision of a member of the department. Designed to help the student to develop ability to design, conduct, analyze and interpret research related to the problem of leisure. Not more than three hours may count toward Master's degree. Prerequisite: consent of instructor.

580-1 to 6 Readings in Leisure and Recreation. Readings in selected topics in leisure and recreation under staff supervision. Not more than three hours may count toward Master's degree. Prerequisite: consent of instructor.

596-1 to 6 Field Work in Recreation. Field work in an approved recreation department. Field work is in the student's field of interest. Supervision under approved agency officer in charge and a member of the department. Prerequisite: major in recreation and permission of the department.

599-1 to 3 Thesis. Prerequisite: consent of department.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed

a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Rehabilitation Institute

E-mail: rehab@siu.edu

COLLEGE OF EDUCATION

Allen, Harry A., Professor, *Emeritus*, Ed.D., University of Arkansas, 1971; 1970.

Anderson, John O., Professor, *Emeritus*, Ph.D., Ohio State University 1950; 1950.

Austin, Gary F., Professor and *Chair/Director*, Ph.D., Northwestern University, 1973; 1984. Deafness rehabilitation; psychosocial aspects of disability.

Beck, Richard J., Associate Professor, Ph.D., University of Wisconsin, 1987; 1990. Chronic pain, substance abuse, workers' compensation, and cross-cultural counseling.

Bender, Eleanor, Assistant Professor, *Emerita*, M.S., Southern Illinois University at Carbondale, 1972; 1961.

Benshoff, John J., Associate Professor, Ph.D., University of Northern Colorado, 1987; 1988. Rehabilitation administration, private sector rehabilitation, substance abuse.

Blache, Stephen E., Professor, Ph.D., Ohio State University, 1970; 1971. Phonology, distinctive feature theory, experimental phonetics, research design.

Bordieri, James E., Professor, Ph.D., Illinois Institute of Technology, 1980; 1986. Vocational evaluation, rehabilitation administration, job placement, rehabilitation management.

Brackett, Isaac P., Professor, *Emeritus*, Ph.D., Northwestern University, 1947; 1951.

Brutten, Gene J., Professor, *Emeritus*, Ph.D., University of Illinois, 1957; 1957.

Bryson, Seymour L., Professor, Ph.D., Southern Illinois University at Carbondale, 1972; 1969. Social, economic, and culturally different clients.

Crimando, William, Professor, Ph.D., Michigan State University, 1980; 1980. Job development and placement, computers in rehabilitation, adjustment services, staff training and development.

Cuvo, Anthony J., Professor, Ph.D., University of Connecticut, 1973; 1973. Behavior analysis and intervention in developmental disabilities, evaluation research, legal and ethical issues.

Davis, Paula K., Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1989; 1995. Developmental disabilities, behavior analysis, transition from school to adult life.

Dickey, Thomas W., Associate Professor, *Emeritus*, M.A., Southern Illinois University at Carbondale, 1964; 1964.

Falvo, Donna, Professor, Ph.D., Southern Illinois University at Carbondale, 1978; 1974. Maintenance and support of the disabled.

Garbutt, Cameron W., Associate Professor, *Emeritus*, Ph.D., Louisiana State University, 1951; 1947.

Gardner, Margaret S., Associate Professor, *Emerita*, Ph.D., Northwestern University, 1960; 1968.

Greene, Brandon, Professor, Ph.D., Florida State University, 1979; 1979. Behavior analysis in consumer affairs; parent and staff training.

Hoshiko, Michael S., Professor, *Emeritus*, Ph.D., Purdue University, 1957; 1957.

Janikowski, Timothy P., Associate Professor, Ph.D., University of Wisconsin-Madison, 1988; 1988. Assessment, credentialing, private for-profit rehabilitation, computers in rehabilitation.

Koepp-Baker, Herbert, Professor, *Emeritus*, Ph.D., University of Iowa, 1938; 1961.

Lehr, Robert P., Jr., Professor, *Emeritus*, Ph.D., Baylor University, 1971; 1973.

Moncur, John P., Professor, *Emeritus*, Ph.D., Stanford University, 1950; 1972.

Poppen, Roger L., Professor, Ph.D., Stanford University, 1968; 1970. Stress reduction, relaxation, biofeedback, human operant conditioning.

Renzaglia, Guy A., Professor, *Emeritus*, Ph.D., University of Minnesota, 1952; 1955.

Riggat, Theodore, Professor, Ed.D., University of Northern Colorado, 1977; 1979. Rehabilitation administration, professional burnout.

Rubin, Harris B., Professor, *Emeritus*, Ph.D., University of Chicago, 1965; 1966.

Rubin, Stanford E., Professor, Ed.D., University of Illinois, 1968; 1980. Rehabilitation research, case management, history and philosophy of rehabilitation.

Schultz, Martin C., Professor, *Emeritus*, Ph.D., University of Iowa, 1955; 1986.

Schumacher, Brockman, Professor, *Emeritus*, Ph.D., Washington University, 1969; 1967.

Simpson, Kenneth O., Assistant Professor, Ph.D., University of Nebraska-Lincoln, 1995; 1994. Alternative/augmentative communication, motor speech disorders.

Smith, Linda, Assistant Professor, Ph.D., Southern Illinois University at Carbondale, 1994; 1994. Language development/language disorders in children, multicultural populations, assessment of language in children.

Taylor, Darrell, Associate Professor, Ph.D., University of South Florida, 1992. Vocational evaluation and work adjustment, cognate rehabilitation counseling.

Vieceli, Louis, Associate Professor, *Emeritus*, M.S.Ed., Southern Illinois University at Carbondale, 1959; 1958.

Wright, W. Russell, Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1974; 1971. Design and conduct of survey research and selected analysis.

In response to pressing human and social needs, the applied field of rehabilitation has solidly entrenched itself as a professional discipline. Multidisciplinary courses of study have been drawn together from the behavioral, social, and medical sciences appropriate to the development of competent practitioners, supervisors, and programmers in rehabilitation and welfare agencies. The overall program is left purposely broad and flexible to permit the inclusion of training innovations and emerging career patterns.

The Rehabilitation Institute offers graduate programs leading to the Doctor of Rehabilitation degree and to the Master of Science degree with majors in behavior analysis and therapy, rehabilitation administration and services, and rehabilitation counseling.

A non-refundable application fee of \$20.00 must be submitted with the application. (The Application can be obtained from the department). Attach your check or money order, payable to Southern Illinois University, to the top of the application form. Do not send cash. Only checks or money orders payable to United States banks will be accepted.

The Master's Degree Program

The master's degree programs in rehabilitation administration and services, behavior analysis and therapy are 45 semester hour programs and rehabilitation counseling is 48 semester hours. Candidates have the option of a research paper or a thesis. Candidates concentrating primarily on preparation for entry into the helping profession ordinarily opt to complete a research paper in their area of concentration. The thesis option typically requires a thesis of an experimental nature, a survey, or other form of research in which empirical data are collected and analyzed. Candidates must demonstrate their skills in formulating researchable questions or hypotheses, in identifying and/or manipulating relevant variables, and in the analysis and reporting of the results.

BEHAVIOR ANALYSIS AND THERAPY

The behavior analysis and therapy program is devoted to the empirically-based development and application of learning principles to a wide variety of human needs. Training is offered in behavioral practice, research and theory as it applies to problems such as child abuse and neglect, developmental disabilities, chronic medical conditions, and traumatic head injury.

Degree Requirements

In fulfilling the 45 semester hour requirement, the student must complete the required courses or their equivalent, at least two elective courses from those listed below, at least one 3-hour practicum, an internship, and either a research paper or thesis.

REQUIRED COURSES

REHB 503 Basic Behavior Analysis
REHB 508 Complex Behavior Analysis
REHB 509a Scientific Methods: Single-Subject Designs
REHB 509b Scientific Methods: Group Designs
REHB 512 Legal and Ethical Issues in Behavior Analysis
REHB 535 Behavioral Observation Methods
REHB 574 Staff Training and Development
REHB 594b Practicum in Behavior Analysis and Therapy

ELECTIVE COURSES

REHB 515 Behavioral Applications to Medical Problems

- REHB 543 Child Behavior
- REHB 545 Behavior Analysis in Developmental Disabilities
- REHB 557a Self-Regulation of Behavior: Self-control
- REHB 557b Self-Regulation of Behavior: Biofeedback
- REHB 563 Behavioral Analysis: Community Applications
- REHB 584 Seminar in Behavior Analysis and Therapy
- REHB 589 Professional Seminar in Rehabilitation

Internship

The student must complete satisfactorily 9 hours of REHB 595 (Internship in Rehabilitation) under the supervision of a behavior analysis and therapy faculty member. The internship is typically begun following two semesters of course work.

Research Paper or Thesis

The student must complete satisfactorily 3 to 6 hours of REHB 593 (Research in Rehabilitation) under the direction of a chairperson. The chairperson is a member of the behavior analysis and therapy faculty selected by mutual agreement between the student and the faculty member.

For the research paper, an additional graduate faculty member may be selected by mutual agreement between the student and the chairperson to serve as a reader. This is not required.

For the thesis, a second faculty member of the behavior analysis and therapy program will be selected by mutual agreement between the student and the chairperson to serve as thesis committee member. The committee will review the thesis prior to its initiation, as a prospectus, and after its completion, in an oral defense. At the oral defense, a third graduate faculty member, selected by mutual agreement between all parties, will be added to the committee to serve as a reader.

COMMUNICATION DISORDERS AND SCIENCES

The communication disorders and sciences program offers graduate work leading to the Master of Science degree. The program in communication disorders and sciences is designed to develop competence in the assessment and treatment of persons with communication disorders.

Course work is planned to meet the academic and professional requirements for state and national certification, which are required for professional employment. These requirements comprise a minimum of 75 semester hours of course work, at least 30 semester hours of which must be at the graduate level. The M.S. degree program in speech-language pathology will culminate in eligibility for the Certificate of Clinical Competence of the American Speech-Language-Hearing Association and state licensure. ASHA certification is required for work in agencies, hospitals, medical centers, and higher education settings. In addition, students may take additional course work to qualify them for the Type 10 special certificate in speech and language impaired of the Illinois State Teacher Certification Board.

The program maintains many active research facilities which provide laboratories and specialized equipment for the study of both the normal and impaired functions of the speech, language, and hearing processes. The speech science laboratory is equipped for electromyographic study of the speech musculature, radiotelemetry, electrophysiology of hearing, and spectrographic analysis of speech signals. The experimental audiology laboratory, which includes a large anechoic chamber, is equipped for investigations in hearing sensitivity, localization, central tests, speech discrimination, and evoked response audiometry. The laboratory also has equipment needed for studies in automatic audiometry, mid-

dle ear immittance, and acoustic reflex experimentation. The laboratory also has equipment for the measurement of physiological indices of emotion, such as electrophysiologic skin measurements. The program maintains the SIUC Infant Cry laboratory and website.

Additional information regarding financial aid, programs, and application procedures can be secured by writing to: Communication Disorders and Sciences Program, Rehabilitation Institute, Southern Illinois University at Carbondale, Carbondale, IL 62901-4609.

Master's Degree Program Leading to Certification in Speech Pathology

The master's degree requires a minimum of 30 semester hours of acceptable graduate credit (3.0 average), at least 15 semester hours of which are at the 500 level, and the completion of approximately 33 to 36 graduate semester hours in clinic courses, and an approved thesis or research project. The program for the M.S. degree is a five semester course of study of approximately 60 to 66 semester hours. Specific course requirements and total number of hours are generally determined by advisement after consultation with the graduate student.

Students are encouraged to follow one of the following plans:

THESIS PROGRAM: CERTIFICATION IN SPEECH PATHOLOGY

Core Courses (Required)

Speech 6

CDS 505-3 Phonological Development & Disorders

CDS 540-3 Neurogenics I

Language 6

CDS 507-3 Language Disorders

CDS 541-3 Neurogenics II

Speech or Language 9

CDS 438-3 Communication & Aging

CDS 544-3 Computer Tech: Phon Dsord Child

Elective: 3 hours

3 hours from: CDS 408, 428, 460, 510, 512, 517, 548

Speech, Language or Hearing 3

Elective: 3 hours

3 hours from: CDS 408, 428, 431, 450, 460, 485, 503, 510, 512,

517, 521, 525, 526, 528, 530, 533, 536, 548, 550

Courses selected must show a balance across professional fields of competency and interest.

Clinical Courses: 33 hours

CDS 594-3 (A), 594-3 (B), 594-3 (C)

CDS 598-12 Internship in Speech-Language Pathology & Audiology

CDS 598-12 Internship in Speech-Language Pathology & Audiology
(or CDS 597-12 Public School Practicum)

Research Tools: 6 hours

CDS 500 Research Design in Speech Pathology & Audiology

3 hours statistics or research design

Note: 3 hours instrumentation course CDS 544-3 (above)

Thesis: 3 hours

3 hours from CDS 599

Total: 66 hours

Thesis students wishing ASHA Certification must also show on their undergraduate or graduate transcripts:

6 additional credits in professional course work (language disorders, speech and hearing diagnostics);

27 credits in basic science course work (a mathematics, biology or physiology, sociology, science, anatomy and physiology of speech, speech science, phonetics, voice or articulation, multicultural aspects of communication);

12 credits in science or professional course work (3 credit courses in audiological diagnostics, audiological rehabilitation, psychology, an introduction to communication disorders).

Thesis students wishing Illinois Type-10 certification must also show on their undergraduate or graduate transcripts the following additional credits:

- 9 credits in communication skills (6 written, 3 oral)
- 3 credits mathematics
- 3 credits science with laboratory
- 3 credits history (American)
- 3 credits language structure (linguistics/English)
- 3 credits third world culture or non-western civilization
- 6 credits history, literature, philosophy or fine arts
- 3 credits government (American)
- 2 credits health and/or physical development
- 2 credits EDUC 314-A Human Growth, Devel & Learn
- 3 credits EDUC 315-3 Organization/Directing Instruction
- 3 credits EDUC 311-2 School and Society
- 3 credits EDUC 308-3 C-M Teaching Exceptional Children
- 3 credits EDUC 310-2 Study of Teaching

CDS 597-12 Public School Practicum

CDS 598-12 Clinical Internship (200 hours minimum)

NON-THESIS PROGRAM: CERTIFICATION IN SPEECH PATHOLOGY

Core Courses (Required)

Speech 6

CDS 505-3 Phonological Development & Disorders

CDS 540-3 Neurogenics I

Language 6

CDS 507-3 Language Disorders

CDS 541-3 Neurogenics II

Speech or Language 9

CDS 438-3 Communication & Ageing

CDS 544-3 Computer Tech: Phon Dsord Child

Elective: 3 hours

3 hours from: CDS 408, 428, 460, 510, 512, 517, 548

Speech, Language or Hearing 3

Elective: 6-8 hours

3 hours from: CDS 408, 428, 431, 450, 460, 485, 503, 510, 512, 517, 521, 525, 526, 528, 530, 533, 536, 548, 550

Courses selected must show a balance across professional fields of competency and interest.

Clinical Courses: 33 hours

CDS 594-3 (A), 594-3 (B), 594-3 (C)

CDS 598-12 Internship in Speech-Language Pathology & Audiology

CDS 598-12 Internship in Speech-Language Pathology & Audiology

(or CDS 597-12 Public School Practicum)

Research Tools: 3 hours

CDS 500 Research Design in Speech Pathology & Audiology

Note: a 3 hours instrumentation course CDS 544-3 (above)

Research Paper: 3 hours

1-3 hours from CDS 593

Total: 66 hours

Non-thesis students wishing ASHA Certification must also show on their undergraduate or graduate transcripts:

6 additional credits in professional course work (language disorders, speech and hearing diagnostics);

27 credits in basic science course work (a mathematics, biology or physiology, sociology, science, anatomy and physiology of speech, speech science, phonetics, voice or articulation, multicultural aspects of communication);

12 credits in science or professional course work (3 credit courses in audiological diagnostics, audiological rehabilitation, psychology, an introduction to communication disorders).

Non-thesis students wishing Illinois Type-10 certification must also show on their undergraduate or graduate transcripts the following additional credits:

9 credits in communication skills (6 written, 3 oral)

3 credits mathematics

3 credits science with laboratory

3 credits history (American)

3 credits language structure (linguistics/English)

3 credits third world culture or non-western civilization

6 credits history, literature, philosophy or fine arts

3 credits government (American)

2 credits health and/or physical development

2 credits EDUC 314-A Human Growth, Devel & Learn

3 credits EDUC 315-3 Organization/Directing Instruction

3 credits EDUC 311-2 School and Society

3 credits EDUC 308-3 C-M Teaching Exceptional Children

3 credits EDUC 310-2 Study of Teaching

CDS 597-12 Public School Practicum

CDS 598-12 Clinical Internship (200 hours minimum)

In addition to the academic programs detailed above, ASHA certification in speech pathology requires a minimum of 350 clock hours of supervised clinical experience in a combination of settings. Within these settings, there are requirements for types of disorders as well as ages of the population. These requirements are met by assignment to the university clinical center, off-site school practicums and off-site medical practicums. Students will average approximately 50 clock hours per semester in the university clinic and 100 hours in each of the off-site practicums. The actual semester hours of credit for the typical student will vary due to client load but approximately 33 semester hours of credit total (i.e., 3 semesters in the university clinic for 9 semester hours of credit total, and 12 semester hours for each of the two semesters off-site). It should be emphasized that it is the clock hours accumulated that is important in the clinical area and it may be necessary to exceed the 33 semester hours of clinical experience in order to obtain the necessary clock hours for certification. The total program for the M.S. degree meeting the ASHA certification requirements is usually a five semester program of approximately 66 semester hours of credit. Additional time may be required for the thesis program student, or if the student has not met the necessary prerequisites for graduate courses.

The College of Education is entitled to certify students for the public schools; the Communication Disorders and Sciences Program of the Rehabilitation Institute is entitled to certify students for the American Speech Language Hearing Association. A comprehensive examination is required by the Graduate School for non-thesis programs. This requirement is met by the successful passing of the NTE ASHA Examination given at regular times during the year.

Courses (CDS)

408-3 Communicative Disorders: Craniofacial Anomalies. An introduction to the ontology, teratology, and management of cleft palate and various craniofacial syndromes important to majors and non-majors interested in this aspect of communication and its disorders. Associated problems of personal and social adjustments are also examined. Prerequisite: 214 or consent of instructor.

410-3 Multicultural Aspects of Communication Disorders. Students will explore different cultures and communication within these cultures. Emphasis will be placed on the relationship between cultural differences and communication disorders. Review of speech and language disorders in multicultural populations, as well as assessment and intervention strategies for use with this diverse group will be provided. Prerequisite: 302, 303 or consent of instructor.

417-3 Stuttering. Reviews the data and theories that relate to the etiology, onset and development of stuttering.

418-3 Parameters of Voice. Physio-acoustic parameters of voice quality variables evidenced in verbal communication. Lectures and demonstrations emphasize basic information necessary to study for the treatment of voice disorders.

419-3 Communication Problems of the Hearing Impaired. Objectives and techniques for the teaching of lip reading, speech conservation, and auditory training. Prerequisite: 302, 303 and 420 or equivalents and consent of instructor.

420-3 Introduction to Audiological Disorders and Evaluation. Bases of professional field of audiology (orientation, anatomy and physiology of the auditory system), major disease processes influencing hearing and their manifestations, measurement of hearing loss. Prerequisite: 203 and 214.

428-3 Communication Disorders and the Classroom Teacher. Etiology and therapy of common speech defects. May be taken by all in-service teachers, seniors and graduate students in education.

431-1 to 6 Speech Physiology. Course focuses on the physiologic parameters of the supraglottal tract, and respiratory and laryngeal systems related to speech production. Discussion and laboratory experiences involve physiological characteristics of normal and disordered speech production, measurement and research procedures, and implications for neuromotor control of speech. Prerequisite: 203 and 214 or consent of instructor.

438-3 Problems of Communication and the Process of Aging. Reviews problems of communication related to the aging process and examines relevant diagnostic and therapeutic techniques. Prerequisite: senior or graduate standing.

450-3 Neuroanatomical Basis of Human Communication. Examination of the central nervous system (brain and spinal cord) as it relates to normal and disordered human communication. Presentation of basic neuroanatomy, common neuropathologies relevant to communication disorders, and strategies in neurogenic problem solving. Prerequisite: 314 or consent of instructor.

460-3 Augmentative and Alternative Communication Systems. An introduction to alternative and augmentative communication systems for non-vocal clients. Discussions include: use of aided and unaided augmentative systems, assessment procedures and training. Prerequisite: 301 or consent of instructor.

485-1 to 9 (1 to 3 per section) Special Topics in Communication Disorders and Sciences. Topical presentations of current information on special interests of the faculty not otherwise covered in the curriculum. Designed to promote better understanding of recent developments related to disorders of verbal communication. Open to advanced undergraduate and graduate students with consent of instructor. The student may take only one section per 700 number.

491-1 to 9 (1 to 3 per semester) Individual Study. Activities involved shall be investigative, creative, or clinical in character. Must be arranged in advance with the instructor, with consent of the chair. Prerequisite: consent of chair.

492-3 Diagnostic Procedures in Communication Disorders. A course devoted to discussion of the role of the speech and hearing clinician as a differential diagnostician. Special emphasis is placed on correlating information obtained from the oral-peripheral examination, articulation and language evaluation, audiometric and case history information in constructing the initial evaluation report. Prerequisite: consent of instructor.

493-3 Basic Clinical Practice. Current information regarding diagnostic, treatment and documentation procedures in speech-language pathology will be presented through active observation in the clinical environment and classroom instruction. Prerequisite: consent of instructor.

500-3 Research Design in Speech Pathology and Audiology. Evaluation of the strategies and procedural tactics of behavioral research.

503-3 Laboratory Instrumentation in Speech-Language and Hearing Science. Physiological, acoustical, and biomedical recording, measurement and analysis of the speech encoder, decoder, and code for clinical and research applications. Prerequisite: 203 or consent of instructor.

505-3 Phonological Acquisition. An introductory discussion of the important linguistic, physiological and acoustic variables which affect language production at the segmental and supra-segmental level of language; and an historical examination of the growth and development of distinctive feature systems from 1920 to the present. Concentration upon the mathematical, logical, physiological and acoustic assumptions of the various matrices which have been developed. Prerequisite: 302 or equivalent and consent of instructor.

507-3 Language Disorders. Discussion of the application of current theoretical implications and research findings to the syntactically impaired. This course emphasizes diagnostic and therapeutic models applicable to language disorders. Opportunities for research and clinical experience with young children displaying developmental language problems will be provided. Required for Master's students. Prerequisite: 303 or consent of instructor.

510-3 Stuttering: Behavior Assessment and Therapy. Explores the assumptions underlying diagnosis and assessment. Procedures specific to the differential assessment of fluency failures are examined, evaluated and related to therapeutic strategies and the tactics of behavior change. Prerequisite: 319 or equivalent and consent of instructor.

512-3 Voice Disorders. An intensive study of the variables of air stream modulation resulting from impaired structures and function of head and neck. Prerequisite: 318 or equivalent and consent of instructor.

517-3 Seminar: Language Disorders Birth to Three. Recent research and trends in language intervention have pointed to the need for very early intervention to optimize the development of handicapped children. In this course we will explore methods of identifying children from birth to 36 months who have language delays or are at-risk for having a language delay or disorder. Current assessment instruments will be reviewed. The course will also review contemporary service delivery models for this population and discuss therapy approaches and materials. Video taped and in-class evaluations will supplement the lectures. Prerequisite: 303 or equivalent or consent of instructor.

521-3 Audiology II: Peripheral and Central Auditory Tests. Application of special behavioral auditory techniques used for site-of-lesion testing, basic anatomical and neurological correlates of abnormal auditory behavior. Prerequisite: 420 or equivalent and consent of instructor.

525-3 Amplification for the Hearing Impaired. Clinical and laboratory methods of evaluating hearing aid performance; counseling of adult clients, parents and teachers; professional relationship of audiologist to otologists and to hearing aid dealers; use and evaluation of individual and classroom auditory trainers. Prerequisite: 420 and consent of instructor.

526-3 Audiology III: Objective Procedures and Hearing Conservation. Theory and practice in the use of objective auditory procedures such as acoustic immittance measures, auditory brainstem response, and event related potentials; also a consideration of techniques used in hearing conservation such as environmental noise controls and identification audiometry. Prerequisite: 420 and consent of instructor.

528-3 Seminar: Physio- and Psycho-Acoustics of the Ear. Advanced study of the physiological responses of the middle and inner ear to the acoustic stimulus, in relation to major theories of auditory function; advanced study of behavioral responses to the major parameters of the acoustic stimulus; threshold sensitivity, loudness, pitch, localization, beats and masking. Prerequisite: 316 or equivalent and consent of instructor.

530-3 Aural Rehabilitation/Auditory Perceptual Disorders. Advanced study of aural (re)habilitative principles and practices for children and adults as well as diagnoses and remediation of auditory perceptual disorders. Prerequisite: 420, 521, 525 and consent of instructor.

533-3 to 6 (3,3) Seminar: Speech and Auditory Perception. Special problems in hearing and communication science. Students may choose from a wide range of topics: speech acoustic,

kinesthetic and vibrotactile perception, hips in adult speech and hearing therapy. Field trips to rehabilitation centers and related agencies.

540-3 Neurogenic Disorders of Communication I. Focus on aphasia and neurolinguistic science. A clinically oriented presentation of the aphasias, and related CNS language disturbances, will be integrated with an introduction to the broader field of neurolinguistics. Clinical aspects will focus on assessment of rehabilitation approaches in aphasia and related disorders. Other topics include cortical language representation, hemispheric functions (general), and review of basic neurolinguistic literature. Prerequisite: 450 or consent of instructor.

541-2 Neurogenic Disorders of Communication II. Focus on the role of the pyramidal and extrapyramidal motor systems in speech production and speech disorders related to abnormalities in these motor systems. Discussion of the neurological basis and clinical management of the dysarthrias and verbal apraxia. Prerequisite: 540 or consent of instructor.

544-1 to 6 Seminar: Computer Techniques for Phonological Disorders in Children. A laboratory based examination of the distinctive features used by children in the normal and abnormal acquisition of phonology. Discussions and practical projects are developed to further the students's understanding of current assumptions concerning the acoustical aspects of abnormal phonation and speech sound production. Group projects are developed using computer based speech sound digitizing equipment. Course credit is based upon the time involved and the complexity of the topic. Digital software and laboratory examination topics are varied to meet individual student needs. May be repeated as topics vary to a total of 6 hours.

548-3 Seminar: Stuttering Behavior-Theory and Research. Examines modern learning theory approaches to fluency failure. The learning models dealt with are critically examined in relation to clinical and experimental data. Also reviews the research data on stuttering in relation to design, methodology, and technology. Discussions serve as the background for original investigations. Prerequisite: 319 or equivalent and consent of instructor.

550-1 to 15 Professional Training Seminar. A special seminar that provides doctoral students the opportunity to prepare and present papers on various aspects of speech-language pathology and audiology. Liberal discussion will follow each paper. All doctoral students are required to enroll for one credit each semester until admitted to candidacy. Graded *S/U* only. Only four credit hours are counted toward the Ph.D. degree.

590-1 to 4 (1 to 2, 1 to 2) Readings in Speech-Language Pathology and Audiology. Supervised and directed readings in specific areas of speech pathology and in audiology. Maximum of two hours counted toward Master's degree. Prerequisite: consent of chair.

593-1 to 3 Research Problems in Speech-Language Pathology and Audiology. Individual work upon selected problems for research. Prerequisite: consent of chair.

594-1 to 18 (1 to 3 per semester) Advanced Clinical Practice Therapy/SLP. Active, super-

vised participation in the clinical process with emphasis on individualized assessment, treatment, counseling and documentation procedures. Overview of clinical practice in various settings, federal legislation and standards of ethical practice. Prerequisite: consent of instructor required.

595-1 to 18 (1 to 3 per semester) Advanced Clinical Practice: Diagnostic/SLP. Advanced clinical practicum in speech and language diagnosis. Populations of children and adults will be evaluated. Emphasis will be placed on diagnostic techniques used in evaluation, as well as preparation of evaluation reports. Prerequisite: CDS majors only and consent of instructor.

596-1 Advanced Clinical Practice: Hearing Diagnostics. Advanced clinical practice in hearing diagnostics. Emphasis will be placed on diagnostic techniques used in the preparation of basic and advanced audiological reports. Graded *S/U* only. Prerequisite: consent of instructor.

597-12 Public School Practicum. Public School internship provides the student with clinical experience under the supervision of a school-based certified speech-language pathologist. The student should receive experience with the disorders of

fluency, articulation, voice, organics, language and hearing. The student should also gain administrative experience. Prerequisite: 150 to 200 clock hours and consent of instructor.

598-12 Internship Communication Disorders. Internship in a selected medical center, hospital clinic, community agency, or private clinic. The internship provides the student with an intensive, professional, clinical experience under supervision of qualified and certified resident staff members. Prerequisite: consent of instructor.

599-1 to 6 Thesis.

600-1 to 32 (1 to 16 per semester) Dissertation.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

REHABILITATION ADMINISTRATION AND SERVICES

Students receive their degrees in rehabilitation administration and services. Students may elect to pursue a sequence of classes in rehabilitation administration. However, those with fewer than three years of rehabilitation or related work experience are generally encouraged to take the vocational evaluation and placement sequence. All students must complete a minimum of 45 semester hours of graduate course work, which includes a full-time internship and a research paper or thesis. During the first semester of full-time study or a comparable period for part-time students, the student must have a plan of study approved by an adviser and the degree program coordinator. This plan of study normally includes rehabilitation core, professional course work, and elective coursework, although specific plans may differ for students with varying backgrounds and career goals. The requirements are as follows:

Rehabilitation Core (21 hours)

REHB 513-3 to 4 Medical and Psychosocial Aspects of Disability

REHB 594a-3 Practicum in Rehabilitation

REHB 595-8 Internship in Rehabilitation

REHB 593-6 Research in Rehabilitation

REHB 593-3 Research in Rehabilitation

REHB 599-3 Thesis

Professional Coursework

The student must complete a series of courses approved by the student's faculty adviser and degree program coordinator. This series of courses will normally consist of the 21 hour rehabilitation administration sequence plus 3 hours of electives, or the 18 hour vocational evaluation and placement sequence and 6 hours of electives. Electives are chosen on the basis of their relevance to the career goals. Persons graduating with the vocational evaluation and placement sequence and appropriate field experience (practicum and internship) are immediately eligible to sit for the CCWAVES examination. Persons graduating with the vocational evaluation and placement sequence, and a double major in rehabilitation counseling (including appropriate supervised field experience) are immediately eligible to sit for the CRC examination.

REHABILITATION ADMINISTRATION SEQUENCE

- REHB 470-3 Rehabilitation Administration
- REHB 573-3 Programming, Budgeting, and Community Resources
- REHB 574-3 Staff Training and Development
- REHB 576-3 Development and Supervision of Rehabilitation Employees
- REHB 578-3 Program Evaluation in Rehabilitation
- REHB 581-3 Professional Issues in Rehabilitation
- REHB 582-3 Seminar in Rehabilitation Services

Suggested Electives (minimum of 3 hours)

- REHB 400-3 Introduction to Rehabilitation
- REHB 580-3 Professional and Community Relations in Rehabilitation

VOCATIONAL EVALUATION AND PLACEMENT SEQUENCE

- REHB 400-3 Introduction to Rehabilitation
- REHB 421-3 Vocational Development and Placement
- REHB 431-3 Assessment Procedures in Rehabilitation
- REHB 526-3 Issues in Supported Employment
- REHB 533-3 Vocational Appraisal
- REHB 583-3 Seminar in Vocational Evaluation

Suggested Electives (minimum of 6 hours)

Any course in the rehabilitation administration sequence.

- REHB 451-3 General Rehabilitation Counseling
- REHB 501-3 Rehabilitation Foundations
- REHB 531-3 Individual Assessment Procedures in Rehabilitation
- REHB 575-4 Case Management in Rehabilitation
- REHB 586-3 Seminar in Job Development and Placement

Practicum and Internship Requirements

Although students are usually required to complete at least 3 semester hours of practicum as well as a full-time internship, prior and concurrent work experience may be substituted for these requirements if recommended by the student's adviser and approved by the rehabilitation administration and services faculty. The options available to the student wishing to substitute work experience for either practicum or internship requirements are as follows.

Option One. A student may request a waiver of the internship requirement and, if approved, substitute 3 semester credit hours of practicum and additional course work to bring the student's program up to the required 45 hour minimum.

Option Two. Students with extensive previous work experience in the field of rehabilitation may request waivers of both the practicum and internship requirements. If the waiver is approved, they will enroll in 6 semester hours of REHB 494, Work Experiences in Rehabilitation, and additional graduate course work up to the required 45 hour minimum.

Waiver request related to options one and two above must be submitted by the student through the faculty adviser to the coordinator of the rehabilitation administration and services program and must be approved by a vote of the rehabilitation administration and services faculty. Waiver requests must include written documentation of the reasons for the request and provide sufficient supporting evidence. Suggested guidelines for the appropriateness of each of the options are: 1) option one for the student with three or more years of satisfactory rehabilitation related work experience and 2) option two for the student with

three or more years of satisfactory work experience directly related to the student's chosen professional course sequence. The student with minimal or no rehabilitation related work experience will be expected to complete the required three hours of practicum and a full-time internship.

Requirements for Research Paper or Thesis and Comprehensive Examination

All students are required to complete a scholarly research paper or thesis in a rehabilitation-related area and an oral comprehensive examination. The student completing a graduate thesis must orally defend it before a thesis committee.

REHABILITATION COUNSELING

Rehabilitation counseling is a process which assists individuals with disabilities to cope constructively with their disability, to maximize their abilities, and to enhance their quality of life physically, psychologically, socially, and vocationally. Through training, professional rehabilitation counselors obtain skills in counseling, evaluation, career exploration, job development and placement, and case management.

The focus of the rehabilitation counselor training program is to prepare professional rehabilitation counselors with the knowledge, skills, and attitudes needed to enter the field. During the training program, students acquire counseling skills, knowledge and understanding of medical and psychological impact of chronic illness and disability on all areas of the individual's life including vocational and independent living issues, as well as skills related to assessment and evaluation, and an understanding of the legislative, historical, and philosophical background of rehabilitation. Student's professional development is encouraged through participation in professional rehabilitation counseling organizations.

The rehabilitation counselor training program is fully accredited by the Council on Rehabilitation Education (CORE). Graduates of the program are eligible to sit for the CRC (Certified Rehabilitation Counselor) examination, a national examination administered by the Commission on Rehabilitation Counselor Certification (CRCC).

General Requirements

The course of study within the rehabilitation counselor training program consists of a minimum of 48 semester hours and involves a blend of academic and clinical experiences. Students in the Rehabilitation Counseling Program must complete 42 hours after admission to the Rehabilitation Counseling Program. Students may transfer a maximum of 6 credit hours of credit taken prior to admission to the program to their 48 hour requirement if the course work is appropriate to Rehabilitation Counseling. Under no circumstances may previous work experience serve as equivalency for any credit hours or clinical practicum or internship experience. In addition to course work, students must complete one semester of practicum, one semester of internship, and a thesis, research paper, or research class in Rehabilitation. Before graduation students must also pass a comprehensive examination.

- The required program of study is:
- REHB 400 Introduction to Rehabilitation
 - REHB 421 Vocational Development and Placement
 - REHB 501 Introduction to Interpersonal Skills Development in Rehabilitation Counseling
 - REHB 513 Medical and Psychosocial Aspects of Disability
 - REHB 530 Assessment Procedures in Rehabilitation Counseling
 - REHB 551 Rehabilitation Counseling: Theory and Practice
 - REHB 575 Case Management in Rehabilitation Counseling

REHB 589 Professional Seminar in Rehabilitation

REHB 593 Research in Rehabilitation

or

REHB 593-A Research in Rehabilitation Counseling

or

REHB 599 Thesis

REHB 594c Practicum in Rehabilitation Counseling

REHB 595 Internship in Rehabilitation

Practicum and Internship Requirements

Students in the Rehabilitation Counseling program are required to complete a total of four semester credit hours of practicum in Rehabilitation Counseling. All practicum and internship sites must be pre-approved by Rehabilitation Counseling faculty. Practicum involves the student's participation eight hours per week for 16 weeks at the practicum site. The majority of the student's time in practicum must be spent in direct client counseling. Counseling sessions must be audio or video taped or have provision for direct supervision by the student's supervisor, such as through a two way mirror. Students in practicum are required to meet with their faculty supervisor once per week during the 16 weeks of practicum in order to review tapes of counseling sessions. Rehabilitation Counseling students are also required to complete a total of eight semester credit hours of internship in Rehabilitation Counseling. Prerequisite to internship is successful completion of the Rehabilitation Counseling practicum. General Rehabilitation Counseling internship requirements include an internship of 40 hours per week for 16 weeks or 20 hours per week for 32 weeks at a site approved by the Rehabilitation Counseling faculty, and one hour per week of supervision, preferably by a Certified Rehabilitation Counselor. During internship at least 50% of the student's responsibilities must include direct experience in individual and/or group counseling of persons with emotional, social, behavioral or physical disability.

Students are also given the opportunity within their program of study to take electives. In addition to the required course of study for rehabilitation counseling, students may choose to specialize in a particular area by taking additional elective courses. Examples of possibilities of specialization are listed below.

Studies in Substance Abuse

A special sequence of courses is offered within the rehabilitation counselor training program for students interested in working with individuals who have substance abuse problems. Students are required to complete a specific sequence of courses and an internship in a substance abuse treatment setting in addition to the courses required for the master's degree in rehabilitation counseling. Successful completion of this course sequence and field work enables students to sit for the Certification Substance Abuse Counselor Examination in Illinois. Graduate students from other disciplines in the University are eligible to enroll in these courses to complete substance abuse counselor certification requirements.

Studies in Aging

This area of special study offered within the Rehabilitation Institute includes a sequence of three elective courses in aging in addition to those courses required for the general rehabilitation counseling curriculum, and an internship in an agency or facility which serves older adults. Students in other disciplines within the University are eligible to enroll in any of the three courses in aging, however only rehabilitation students will be eligible for the internship.

DOCTOR OF REHABILITATION

The doctoral program in rehabilitation prepares students to function effectively as rehabilitation educators, researchers, or administrators. It does this by fostering the student's development and acquisition of relevant conceptual and experiential skills in evaluation and research methodologies, in rehabilitation service, or in the management of service units.

Admission and Retention Standards

All applicable policies and procedures of the Graduate School with regard to the admission of doctoral students will be followed. Requirements for admission to the doctoral program in rehabilitation exceed those of the Graduate School. The admissions committee of the doctoral program will review all candidates carefully for their special strengths. The following will be considered for all candidates.

1. High academic achievement (normally indicated by a grade point average of 3.5 on a 4-point scale) in a master's program in rehabilitation or a closely related field at an accredited university.
2. Interest in conducting rehabilitation research.
3. Two years of successful performance equivalent to full-time paid employment (post-baccalaureate) in a rehabilitation or related professional position. This may include an approved internship experience at the master's level.
4. At least three letters of recommendation by professional persons familiar with the applicant's performance in academic, research, or service work settings.
5. A personal or telephone interview with the Rh.D. program admissions committee.
6. GRE scores dating back no farther than 5 years.

Applicants will be considered for acceptance into the doctoral program at the beginning of either the fall or spring semester. For a student to be retained in the program, a 3.5 overall grade point average (GPA) must be maintained. Courses in which a grade below *B* is obtained will not be counted toward satisfying the hour requirements for the degree.

Doctoral Committee

The student shall select a chair who will serve as his/her major adviser. In consultation with the chair the student shall select a doctoral committee which is approved by the coordinator of doctoral studies and the Graduate School. At least one member shall be external to the Rehabilitation Institute.

Working together with the chair, the student shall develop a plan of study, designating the courses to be completed. This plan shall be approved by the student's doctoral committee and by the coordinator of doctoral studies and then shall be made a matter of record. Further, the doctoral committee shall serve as the student's dissertation committee.

Admission to Candidacy

Admission to candidacy is granted by the dean of the Graduate School upon the recommendation of the faculty responsible for the student's program after the student has fulfilled the Graduate School residency requirement for the doctoral degree and passed the preliminary examinations.

The written preliminary examinations are designed to assess the breadth and depth of the student's knowledge. They are prepared, administered, and evaluated by Rehabilitation Institute faculty committees appointed by the coordinator of doctoral studies. The preliminary examinations will ordinarily be taken in the fall of the second year of doctoral study.

Dissertation

After admission to candidacy, the student will prepare a dissertation based on original research conducted under the direct supervision of the dissertation chair and committee. The requirements of the Graduate School will govern the formation of the dissertation committee and the preparation and defense of the dissertation. While the dissertation is in preparation, the student will register for no fewer than 24 semester hours in REHB 600, Dissertation. The dissertation should conform to the current edition of the *Publication Manual of the American Psychological Association* and the standards required by the Graduate School.

Degree Requirements

The Doctor of Rehabilitation program emphasizes mastery of skills in research methodology, knowledge of medical and psychosocial aspects of disability, and knowledge of public policy on disability, as well as competency in the area of rehabilitation counseling, rehabilitation administration, behavior analysis and therapy, or communication disorders and sciences. The course of study requires a minimum of 96 post-baccalaureate semester hours, 24 of which are dissertation hours and 27 of which are fulfilled by required courses. All remaining coursework taken by the student will be electives, selected with the approval of the student's doctoral committee.

Required Courses

The student must have successfully completed the following courses no later than 24 months after entering the Doctor of Rehabilitation program:

EPSY 506-4 Inferential Statistics

EPSY 507-4 Multiple Regression

REHB 509a-3 Single Subject Experimental Designs

REHB 509b-3 Group Experimental Designs

REHB 588-3 Seminar in Research in Rehabilitation

REHB 513-3 or 4 Medical and Psychosocial Aspects of Disability

REHB 581-3 Legal and Ethical Issues

REHB 589-3 Professional Seminar in Rehabilitation

The student's preparation at the master's level will be evaluated and up to 30 hours of didactic course work may be accepted toward the completion of the 96 hour minimum requirement for the doctorate. Graduate level didactic courses in rehabilitation counseling, rehabilitation services, rehabilitation administration, behavior analysis and therapy, and communication disorders and sciences will usually be acceptable. Course work in related areas such as counseling, psychology, and social work may qualify.

The goal of the program is to develop high quality professionals. Thus, the student must demonstrate competence in the areas of rehabilitation services offered by the Rehabilitation Institute. This is accomplished through the student's master's degree program, previous work experience, the required courses, supervised professional experiences, and electives. Rh.D. degree graduates should be well prepared for leadership roles in the areas of rehabilitation administration, service, education, or research.

Courses (REHB)

Courses in this unit may require the purchase of supplemental materials not to exceed \$10 per course. Field trips are required for certain courses.

400-3 Introduction to Rehabilitation. An introduction to the broad field of rehabilitation, to include the processes (services), facilities and personnel involved. Note: students can enroll in the didactic portion for two credits, or three credits if

they elect the field trips. No student can take the field trips alone without taking the didactic portion as well.

401-3 Disability, Diversity and Society. This course will address the relationship between pre-

vailing societal attitudes and environmental designs and the opportunity of persons with disabilities to participate fully in society. It will examine the physical, mental, gender and cultural characteristics of persons with disabilities as determinants of their needs, values, aspirations and opportunities. How public policies can promote or limit inclusion and equal opportunities for persons with disabilities will also be addressed.

403-3 Independent Living Rehabilitation. Survey of principles and methods of independent living for persons with disabilities with attention to client assessment for rehabilitation, effective techniques for specific individuals with disabilities, and the variety of types and organization of independent living programs.

405-3 Introduction to Aging and Rehabilitation. Introduction to the field of aging. Includes social, political, economic and legal issues pertinent to an aging society and rehabilitation.

406-3 Introduction to Behavior Analysis and Therapy. A survey of the principles and procedures in behavior analysis and therapy and the scope of its application to human needs and problems.

419-1 to 3 Cross-Cultural Rehabilitation. (Same as Black American Studies 490.) Major focus on the relationship/comparison of basic cultural, economic and psychosocial processes relative to the rehabilitation of people in contemporary societies. Prerequisite: consent of instructor.

421-3 Vocational Development and Placement. Relates the psychosocial meaning of work, process of vocational development, theories of occupational choice and labor market trends to current and innovative methods of job development, selective placement and follow-up with the handicapped. Prerequisite: consent of instructor.

445-3 to 12 Rehabilitation Services with Special Populations. Procedures and programs pertinent to the care and treatment of special populations. Three semester credits will ordinarily be granted for each unit. Prerequisite: consent of instructor.

(a)-9 (3, 3, 3) **Alcohol and Drug Abuse.**

(b)-9 (3, 3, 3) **Emotionally Disturbed.**

(c)-9 (3, 3, 3) **Juvenile Offender.**

(d)-9 (3, 3, 3) **Mental Retardation.**

(e)-9 (3, 3, 3) **Physically Disabled.**

(f)-9 (3, 3, 3) **Public Offender.**

(g)-9 (3, 3, 3) **Sensory Disabled.**

(h)-9 (3, 3, 3) **Developmental Disabilities.**

446-3 Psychosocial Aspects of Aging. Selected theories of psychosocial aspects of aging will be presented and the psychological and sociological processes of aging with the ensuing changes will be related to these conceptual frameworks. Included for discussion and related to field experience will be such concerns as stress reactions to retirement, physical disabilities, impact of reduced economic resources, and other personal-social changes in aging. Topics will address the knowledge base needed by students concerned with rehabilitation of aging clients in institutional, community and home settings. Therapeutic techniques to ameliorate these stresses will be an integral part of the course.

447-3 Biomedical Aspect of Aging. The aging process in a life-span developmental perspective; biological theories of aging, physiological changes

in middle and old age and their effects on behavior, performance potential, and psychosocial functioning; senility and other age-related disabilities, their prevention and management; geriatric health maintenance and rehabilitation; institutionalization; death and dying. No prerequisites.

452-3 Behavior Change Applications. An overview of the development and evolution of applied behavior analysis. Applications of behavior analysis to problems of social significance in institutions, schools and communities are surveyed. Prerequisite: 406 or consent of instructor.

453-1 to 4 Personal and Family Life Styling. The academic and personal competencies that are characteristic of fully-functioning, integrated persons within the context of our twentieth century environment will be systematically reviewed for adoption in every day living as well as in professional functions. Participants will focus on and experience life styling theories, models, and skills for their own growth and development and learn to assess basic risk-factors in their rehabilitation clients and families prior to helping them program a more balanced, synergistic, and holistic approach to living. Prerequisite: consent of instructor.

461-3 Introduction to Alcoholism and Drug Abuse. Orientation and introduction to a variety of topics related to alcohol and drug abuse; surveys history, theories of cause and development, consequences of abuse, classes and types of drugs, legislation and other current issues relating to substance abuse and addiction.

468-3 Sexuality and Disability. Research and rehabilitation practices pertaining to the unique psychosexual aspects of various chronically disabling conditions will be examined.

470-3 Rehabilitation Administration. Problem solving approach to current issues in organizational structure and management functions in public and voluntary rehabilitation agencies, decision making, leadership, program development and evaluation.

471-3 Rehabilitation and Treatment of the Alcohol and Drug Abusers. A comprehensive examination of substance abuse treatment and rehabilitation; focus on various treatment approaches, treatment settings, and types of counseling to include an overview of individual, group and family techniques; the rehabilitation counselor's role is addressed and necessary skills in treating drug and alcohol abusers. Prerequisite: 461 or consent of instructor.

479-3 Technical Writing in Rehabilitation. Fundamentals of writing skills for rehabilitation specialists, including preparation and drafting of program/grant proposals, vocational evaluation/work adjustment reports, news releases and other publicity materials. Prerequisite: consent of instructor.

490-1 to 6 (1 to 3 per semester) Readings in Rehabilitation. Supervised readings in selected areas. Prerequisite: consent of instructor.

494-1 to 12 Work Experience in Rehabilitation. Rehabilitation 494 and 594 both cannot be counted for a graduate degree, only one or the other can satisfy requirements toward a Master's degree. Prerequisite: consent of department.

501-3 Introduction to Interpersonal Skills Development in Rehabilitation Counseling.

Focuses upon facilitative interpersonal communication skills necessary in Rehabilitation Counseling Practice. The course provides theory and practice in facilitative interpersonal communication in counseling, behavior therapy and administration services. Included is pre-practicum orientation. Prerequisite: consent of instructor.

503-3 Basic Behavior Analysis. Philosophy, terminology, and basic methodology of experimental and applied behavior analysis. Focuses on a variety of operant and respondent conditioning procedures for shaping new behaviors and modifying established behaviors. Prerequisite: consent of department.

504-3 Foundations of Rehabilitation Research. This course includes: the logic of scientific inquiry; the concepts of research questions and hypotheses; the notion of variables; the relationship among theoretical constructs, operationalism, and measurement instrument reliability and validity; the concepts of control, internal validity and casual inference; sampling methods and external validity; and experimental and descriptive research. Prerequisite: enrollment in Rh.D. degree program or consent.

508-3 Complex Behavior Analysis. Experimental analysis of procedures that result in acquisition, maintenance, and attenuation of complex individual and social behavior. Prerequisite: consent of instructor.

509-6 (3,3) Behavior Analysis Research Designs. Focuses on behavior analysis research design and methodology. Three semester hours will be granted for each unit. (a) Single subject experimental designs; (b) Group experimental designs.

512-3 Legal and Ethical Issues in Behavior Analysis. Focuses on federal and state legislation, litigation, policies, guidelines, and other forms of legal and ethical control of the professional practice of behavior analysis and therapy. Implications for research and service will be discussed.

513-1 to 4 Medical and Psycho-Social Aspects of Disability. A review of the impact of disease and trauma on the human system with special attention on the effects physical limitations and socio-emotional correlates have on human functioning and the rehabilitation process. Prerequisite: consent of department.

515-3 Behavioral Applications to Medical Problems. Examines the use of behavior change procedures and applied behavior analysis in the treatment and rehabilitation of medically related problems such as obesity, alcoholism, headaches, hypertension and cerebral palsy; also, compliance to medical regimens, e.g., diabetes, dental hygiene, exercise; and promotes the utilization of health facilities and community health programs. Issues in training medical personnel to disseminate behavior change programs are also covered. Prerequisite: 409 and 503 or consent of instructor.

526-3 Issues in Supported Employment. Focuses on community work options for adults with severe disabilities. These community work options, supported work and supported employment, the issues surrounding transition from school to work, and the difference between sheltered and nonsheltered employment will be discussed from philosophical and practical viewpoints.

530-3 Assessment Procedures in Rehabilitation Counseling. Review of fundamental bases of measurement, criteria for evaluating tests, exposure to representative instruments in major categories, and use of test and work samples in assessing the functioning abilities and work potential of individuals with disabilities to seek and hold gainful employment. Prerequisite: consent of instructor.

531-3 Individual Assessment Procedures in Rehabilitation. Thorough familiarization and practice with independent assessment devices used in program selection and job placement of individuals with various handicaps. Prerequisite: 431 and consent of instructor.

533-3 Vocational Appraisal. An extensive exposure to instruments designed for use with vocational rehabilitation clients. Administration and interpretation of a wide variety of instruments used to gain information to be used in planning for vocational development. Both didactic and experiential to include consideration of information obtained from interviews, tests, and other diagnostic techniques. Prerequisite: consent of instructor.

535-3 Behavioral Observation Methods. Behavioral targeting, observational recording techniques, and issues of validity and reliability of measurement relevant to rehabilitation will be examined. Prerequisite: previous or concurrent enrollment in either 409, 452, or 503 or consent of instructor.

543-3 Child Behavior. A systematic analysis of child behavior. Included is an examination of popular books on child rearing. Emphasizes approaches for remediation of behavior disorders. Prerequisite: consent of instructor.

545-3 Behavior Modification in Mental Retardation. Consideration of behavioral principles as applied in the development of responsive behavior in mentally retarded persons. Prerequisite: consent of instructor.

551-4 Rehabilitation Counseling: Theory and Practice. A didactic and experiential analysis of the underlying theory and techniques of individual and group counseling of individuals with disabilities. Prerequisite: consent of instructor.

557A-3 Self-Regulation of Behavior: Self-Control. The course provides a thorough review of self-control techniques and their application to habit disorders such as smoking, eating, exercise, time-management and nervous habits. Prerequisite: consent of instructor.

557B-3 Self-Regulation of Behavior: Biofeedback. The course provides a comprehensive review of experimental and clinical studies of biofeedback. It concentrates on stress related disorders and provides supervised laboratory experience. A \$10 laboratory fee is charged. Prerequisite: consent of instructor.

558-3 Rehabilitation of Special Alcoholic and Drug Abusing Populations. Emphasis is on the characteristics, assessment, rehabilitation, and unique problems of drug and alcohol abusers within specific populations. Particular attention is given to substance abuse of women, minorities, elderly, adolescents, homosexuals and disabled. Prerequisite: 461 or consent of instructor.

560-3 Private Sector Rehabilitation. A comprehensive introduction to many of the unique

characteristics of rehabilitation services offered within the private-for-profit sector which can be applied by practitioners on a national basis.

563-3 Behavioral Analysis: Community Applications. All aspects of behavior analysis applications in the community are examined including historical development, the "state of the art", practical issues and obstacles to conducting behavioral analysis/community research; future trends and directions. Prerequisite: 503 or consent of instructor.

566-3 Alcoholism, Drug Abuse and the Family. The family system model is emphasized as a rehabilitation procedure for drug and alcohol abuse. Examines etiology of drug and alcohol abuse, assessment procedures, treatment and rehabilitation, and associated problems such as spouse or child abuse, divorce, and incest from a family context. Prevention techniques are additionally covered. Prerequisite: 461 or consent of instructor.

573-3 Programming, Budgeting, and Community Resources. Designed to prepare the student to develop and operate comprehensive or specialized rehabilitation programs with special attention to resource development, fiscal management, and community and public relations. Prerequisite: 570 or consent of instructor.

574-3 Staff Training and Development. This course prepares the student to design, implement, and supervise an institutional program to train staff in methods of direct service to the institution's clients. Each student will actually design and submit a program through simulation. Lecture/workshop format.

575-4 Case Management in Rehabilitation Counseling. Basic procedures in providing and coordinating available human services based on individual need in the context of a professional-client relationship, and the basics of recording and reporting such services. Prerequisite: consent of instructor.

576-2 to 3 Development and Supervision of Rehabilitation Employees. Current and progressive supervisory practices in rehabilitation with emphasis on employee development through in-service training, periodic evaluation and related methods. Prerequisite: consent of instructor.

578-3 Program Evaluation in Rehabilitation. An analysis of the development and utilization of a program evaluation system in rehabilitation settings with focus given to system design, monitoring techniques and service program development. Students will be trained in the advanced practice of program evaluation techniques and their application to rehabilitation settings. Prerequisite: consent of instructor.

579-3 Advanced Fiscal Management in Rehabilitation. Application of fund and functional accounting in rehabilitation to include fiscal reporting and record keeping, fiscal planning and management in rehabilitation. Prerequisite: 570 and 573.

580-3 Professional and Community Relations in Rehabilitation. Examination of the linkages and needs of rehabilitation programs and agencies in the area of community and professional relations, with special reference to the role of administrator. Application of marketing principles to the management of external relations in reha-

bilitation settings. Prerequisite: consent of instructor.

581-3 Professional Issues in Rehabilitation. Focus is on legal and ethical issues and issues related to legislative and public policy formulation. Implications for rehabilitation programs, practice and research are emphasized.

582-1 to 4 Seminar in Rehabilitation Services. Special consideration of factors in the organization and management of rehabilitation services. Prerequisite: consent of instructor.

583-1 to 4 Seminar in Work Evaluation. Select attention to procedures/models for assessing work readiness of personnel with disabilities. Prerequisite: consent of instructor.

584-1 to 6 (1 to 2 per semester) Seminar in Behavior Analysis and Therapy. Special topics and new developments in modifying human behavior. Prerequisite: consent of instructor.

585-1 to 4 Seminar in Counseling/Coordination Services. Consideration of special issues in counseling and delivery of services. Prerequisite: consent of instructor.

586-3 Seminar in Job Development and Placement. Consideration of special issues in job development and placement philosophy, techniques and research concerning individuals with disabilities. Prerequisite: consent of instructor.

587-3 Seminar in Correlates of Disability. A systematic analysis of the behavioral socio-cultural implication of disabling conditions. Emphasizes the rehabilitation process in remediation of debilitating conditions. Prerequisite: 513 or consent of instructor.

588-3 Seminar in Research in Rehabilitation. Advanced seminar focusing upon specialized and advanced topics in research in rehabilitation. This course is designed to prepare doctoral students in rehabilitation with the special tools needed to carry out doctoral dissertation and other advanced research projects. Prerequisite: consent of instructor.

589-1 to 18 (1 per semester) Professional Seminar in Rehabilitation. The course involves advanced level presentations focusing on current research, applied practices, and innovations in rehabilitation. Presentations are made by faculty, graduate students and guest experts. A minimum of four semester hours required for Doctor of Rehabilitation degree.

591-1 to 18 Independent Projects in Rehabilitation. Systematic readings and development of individual projects in pertinent rehabilitation areas. No more than six hours may be counted toward the Master's degree. Prerequisite: consent of instructor.

592-1 to 16 Professional Supervision in Rehabilitation. Experience provided in the supervision of research, teaching, and rehabilitation services. No more than four hours may be taken in any semester. Prerequisite: Doctoral student in rehabilitation and consent of instructor.

593-1 to 18 Research in Rehabilitation. Systematic investigation of factors and procedures relevant to rehabilitation. No more than six hours may be counted toward the Master's degree. Prerequisite: consent of instructor.

593A-1 to 18 Research in Rehabilitation. Systematic investigation of factors and procedures relevant to rehabilitation. No more than six

hours may be counted toward the master's degree. (a) Counseling. To facilitate knowledge/skill acquisition for the rehabilitation professional in becoming a knowledgeable consumer of rehabilitation research. To facilitate the completion of the Master's project. Prerequisite: consent of instructor.

594-1 to 12 Practicum in Rehabilitation. Supervised experiences in agencies in rehabilitation. (a) Administration. Rehabilitation facilities management/supervision, in planning, programming and evaluation. (b) (Same as Psychology 596.) Behavior modification. Application of behavioral analysis/methods in human treatment and in management. (c) Counseling. Development of counseling skills with individuals and groups to include work related functions. Prerequisite: (a,b,c) admission to the specific degree program; (c) 501, 551, and 589.

595-1 to 12 Internship in Rehabilitation. Extended practice in rehabilitation settings coopera-

tively guided and supervised by agency staff and university faculty. Graded *S/U* only. Prerequisite: appropriate degree specific practicum and consent of department.

599-1 to 6 Thesis. Prerequisite: consent of instructor.

600-1 to 30 (1 to 12 per semester) Dissertation. Minimum of 24 hours to be earned for the Doctor of Rehabilitation degree. Prerequisite: doctoral candidate in rehabilitation.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Social Work

E-mail: sandys@siu.edu

COLLEGE OF EDUCATION

Bratton, Letitia B., Assistant Professor, D.S.W., Catholic University of America, 1992; 1995. Health/mental health practice, policy, health care needs of adolescents and the elderly.

Gammon, Elizabeth A., Associate Professor, Ph.D., University of Wisconsin at Madison, 1989; 1991. Medical social work, international social work with disabilities, coping skills and training.

Kawewe, Saliwe, Associate Professor and *Director of the Graduate Program*, Ph.D., Saint Louis University, 1985; 1996.

Miah, Muhammad M.R., Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1985; 1985. Health/mental health policy, research, human behavior in the social environment ethnicity/multiculturalism.

Raske, Martha, Assistant Professor, Ph.D., University of Illinois at Chicago, 1995; 1994. Re-

search, policy, practice, mental health services research, programs and policies regarding women diagnosed mentally ill.

Reichert, Elisabeth, Assistant Professor, Ph.D., University of Tennessee at Knoxville, 1989; 1994. Practice, policy, human behavior and the social environment, clinical social work with sexual abuse/incest survivors, battered women, crisis intervention.

Tracy, Martin B., Professor and *Director*, Ph.D., University of Illinois at Urbana, 1982; 1994. Policy, cross-national policy analysis of income maintenance, health care, and family allowance systems in industrial and economically developing nations; community-based, integrated social service delivery systems for both children and elderly populations; public retirement systems for low-income workers and women.

The School of Social Work offers graduate work leading to the Master of Social Work degree. The M.S.W. program is fully accredited by the Council on Social Work Education.

Master of Social Work

The Master of Social Work degree program offers preparation for professional social work practice. The organizing principle of the M.S.W. program is the improvement of the quality of individual life through the enhancement of social and economic justice and opportunity. Upon completion of the M.S.W. program, the student will acquire knowledge, values, and skills consistent with the social work profession and be capable ultimately of engaging in autonomous social work practice. Graduates with such preparation will be able to effectively deliver the social services needed to meet human needs in both urban and rural areas.

Students in the first year of the program take the foundation curriculum which consists of 30 semester hours and includes the following courses:

Fall (15 semester hours)

SW 500-3 Human Behavior & the Social Environment I

SW 505-3 Foundations of Social Work & Services
SW 510-3 Social Work Practice I
SW 511-3 Social Work Research
SW 542-4 Social Work Practicum I

Spring (15 semester hours)

SW 501-3 Human Behavior & the Social Environment II
SW 504-2 Ethnic Diversity & Social Work Practice
SW 506-3 Social Welfare Policy Analysis & Design
SW 520-3 Social Work Practice I
SW 542-4 Social Work Practicum II

The second year curriculum is organized around the following emphasis areas: health/mental health and child welfare. The school also offers course work in preparation for School Social Work Type 73 Certification by the Illinois State Board of Education. Applicants must indicate their preference for an emphasis area. Although we attempt to accommodate the applicant's first preference for a second year emphasis area, we do not guarantee that individuals will receive their first choice in emphasis area or in field practicum assignment.

In each year of study, in addition to classroom work, students are required to take field practicum. Applied learning through field practice is an integral component of social work education. Field instruction provides the student with the opportunity for applying social work theory and conceptual learning to realistic and practical situations. Students may not substitute current or past, paid or volunteer, social work experience for field practicum requirements of the M.S.W. program. While the school takes into account the student's career goals in the selection of the field practicum assignment, we do not guarantee that students will receive their first preference of field assignment.

Admission Requirements

To be considered for admission to the regular two year M.S.W. program applicants must:

1. Meet all admission requirements set forth by the Graduate School.
2. Have a GPA of at least 3.0 (on a 4.0 scale) in the last two years of undergraduate course work.
3. Show evidence of a broad liberal arts base with substantial preparation in the social and behavioral science and humanities.
4. Demonstrated content in human biology and introductory statistics.
5. Receive a satisfactory score on the Graduate Record Examination (GRE).

Documented potential for the profession of social work is considered a part of the admission criteria which may also include an interview prior to acceptance. Entry is in the fall semester for the regular two year program.

To apply, you must complete and submit a Graduate School application and an M.S.W. program application. Application material may be obtained from: M.S.W. Admission's Office, School of Social Work, Southern Illinois University at Carbondale, Carbondale, IL 62901.

A non-refundable application fee of \$20.00 must be submitted with the application. Attach your check or money order, payable to Southern Illinois University, to the top of the application form. Do not send cash. Only checks or money orders payable to United States banks will be accepted.

Applicants who wish to be considered for advanced standing must meet all criteria noted above, with the addition of a bachelor's degree in social work from an accredited program. Applicants seeking admission with advanced standing must demonstrate content in human biology, introductory statistics and have GRE scores on file. To be considered for admission applicants are required to register as unclassified students with the Graduate School, and receive a grade of *B* or better in each of the following courses: SW 502, 512, and 522. Such applicants

then are eligible for recommendation to the M.S.W. program with advanced standing in the fall semester.

Applicants admitted for either the basic two-year program or for advanced standing may be required to take additional courses as a condition of admission.

A reduced-load program is available for a limited number of students with or without a B.S. degree in social work, who are either fully employed or prefer to take fewer than 3 courses per semester. This program requires a minimum of 2 consecutive semesters of full-time residency as defined by the University (e.g., fall-spring, spring-summer, or summer-fall). Requests to change from full-time to full-time reduced-load status requires prior approval of the director.

Each application will be individually reviewed; however, meeting all stated criteria will not automatically guarantee admission to the school.

The deadline for applications is February 15 for the advanced standing program and March 15 for the regular two year program.

Applicants must apply to the School of Social Work and be recommended to the Graduate School for official admissions. Students accepted into the M.S.W. program are admitted in the fall and must register for the semester they are admitted.

Degree Requirements

Students admitted to the regular two-year program are required to complete the first year foundation curriculum and the second year advanced curriculum. They are required to complete a minimum of 60 semester hours of graduate course work taken in the approved sequence.

Students with a bachelor's degree in social work from an accredited program may be admitted with advanced standing. These students are required to complete 9 semester hours of transition courses with a grade of *B* or better in each course, and a minimum of 30 semester hours of the second year graduate course curriculum, including all required courses, taken in the approved sequence.

Within limits imposed by the policies of the Graduate School of the University, transfer credits will be permitted for up to 30 semester hours for applicants who wish to transfer from another graduate program in social work. Candidates must maintain a 3.0 on a 4.0 scale.

Student Advisement

Upon admission to the Master of Social Work degree program, the student will be assigned a faculty adviser. The adviser is responsible for supervision of the student's progress and is available for career counseling as well as assisting in other matters which might arise in connection with the student's work.

Financial Aid

The program offers limited financial assistance through graduate assistantships. Other scholarships, grants-in-aid, etc., may be applied for through the Graduate School, Southern Illinois University at Carbondale, Carbondale, IL 62901-4716.

M.S.W./J.D. in Social Work and Law

A concurrent degree in social work and law is designed to educate practitioners in law and social work to effectively utilize the problem-solving strategies and techniques of both professions. Students prepared in this program will develop an understanding of the ethics, language, research, history, and processes of both professions. It prepares students for careers which combine both legal and human service needs such as administration, supervision of the provision of services, legal aspects of services, public policy leadership roles, family practice and community planning and development. Accepted students could complete a concurrent program in as few as three years with full-time summer attendance. Students must meet the requirements of admission and be admitted separately

to the School of Social Work and the School of Law. Students currently enrolled in social work or law programs must have a minimum GPA before they may enroll in the concurrent program. The minimum GPA for social work is 3.0 and for law is 2.5. Social work students interested in this program should consult with the School of Social Work Graduate Program Director.

Courses (SOCW)

421-3 Social Welfare Policy. In-depth examination of current social welfare policy and program issues in the context of social welfare history in the United States. Utilizes a systematic analytical framework for critical study of multiple causal factors (socio-economic, cultural, governmental structure). Prerequisite: Economics 113; Social Work 275, 291 and 383.

426-4 Social Factors in Personality and Adjustment. (Same as Psychology 464) Review of selected theoretical orientations and research traditions in social psychology. Comparison of different theoretical and methodological approaches — symbolic interaction, role theory, developmental and social psychology, theories of attitude organization and change, studies of belief and value systems, theories of socialization.

446-1 to 4 Selected Topics in Social Work. Seminar on selected problems and issues in the social work practice. Content varies with interests of instructor and students. Prerequisite: junior standing.

478-1 to 6 International Social Work: Generalist Policy and Practice. Provides an international perspective for the study of social work groups, organizations and communities. Focuses on the examination of assessment and problem solving interventions and cross-cultural comparisons of policy and practice in foreign countries.

496-1 to 6 Independent Research in Social Work. Provides opportunity for students to conduct independent research with the guidance of a faculty member. Topics of research are identified by the student and faculty member. Prerequisite: consent of instructor.

497-3 Statistics for Social Workers. Statistical methods as applied to social work, focusing on basic descriptive and inferential statistics and their relationship to social work research. Students are provided with statistical methods and models that are applicable to social work research. Lastly, students are prepared to critically analyze published research and apply statistical principles in their own research. Social work majors only.

500-3 Human Behavior in the Social Environment. Life span development. Students acquire a foundation knowledge of human development in the social environment over the life span. Normal development stages and impacts of social systems on the growth of individuals in diverse populations of rural areas is emphasized. Prerequisite: admission to the program.

501-3 Generalist Practice. This course emphasizes the development of advanced intervention skills related to generalist practice with individuals, families, groups, organizations and communities in multiple-service, community-based agencies characteristic of rural areas. Includes mandatory interviewing skills weekend. Prerequisite: admission to the program.

502-3 Perspectives on Human Behavior and Social Environment. Selective examination of the theoretical basis of development and inter-relational aspects of individuals and families throughout the life span. Normal development stages and impacts of social systems on the growth of individuals in diverse populations of rural areas is emphasized. Prerequisite: eligibility for advanced standing. Must be taken concurrently with 512 and 522. Grade of B or better required for admission to the advanced standing program.

504-2 Ethnic Diversity and Social Service. Examination of issues involved in delivering social services to various ethnic and cultural groups. Sensitizes students to personal, familial, or community problems of ethnic or cultural origin. Implications for understanding social services to populations who have experienced discrimination are discussed. Prerequisite: admission to the program.

505-2 Foundations of Social Work and Services. Examination of both historical and philosophical developments of the social welfare system as an institution and social work as a profession in the United States. Future trends in social work education and practice are predicted based on social and political mentality prevailing at present time. Prerequisite: admission to program.

510-3 Generalist Systems Theory. Examination of systems and advanced generalist practice theories within the context of rural, integrated and multiple-service social services delivery systems. Specific practice examples will be used to facilitate understanding of how theory guides practice with individuals, families, groups, organizations and communities. Prerequisite: admission to the program.

511-3 Social Work Research. This course emphasizes the importance of scientific inquiry within social work practice and covers the application of basic concepts of research methodology to social work including problem formulation, research design, sampling, measurement, and data analysis. Includes single-system methodology as it applies to social work practice in rural areas. Prepares students to conduct an individualized single-system project based on practice intervention with clients or systems in their practicum setting in the final semester of their studies. Prerequisite: admission to program and introduction to statistics course.

512-3 Research Design/Theory Building. Selective examination of inductive and deductive methods in social work knowledge building. Includes research methodologies and group designs as applied to social work practices in rural areas. Prepares students to conduct an individualized single-system project based on practice intervention with clients or systems in their practicum setting in the final semester of their studies. Pre-

requisite: eligibility for advanced standing. Must be taken concurrently with 502 and 522. Grade of *B* or better required for admission to the advanced standing program.

520-3 Social Work Practice II. Foundation practice focusing on process, methods, and skills for work with groups, communities, and organizations. Prerequisite: 510.

521-3 Social Welfare Policy. Examines the historical development of social welfare and professional social work in Europe and the United States. The course introduces a systematic framework for policy analysis with particular attention paid to policies affecting diverse rural population, women and minorities. Prerequisite: admission to program.

522-3 Social Welfare Policy Development and Analysis. Selective examination of the historical development of social welfare and professional social work in Europe and the United States. Uses a systematic framework for policy analysis with particular attention paid to policies affecting women, low income, oppressed and diverse rural populations. Prerequisite: eligibility for advanced standing. Must be taken concurrently with 502, 512. Grade of *B* or better required for admission to the advanced standing program.

530-3 Substance Abuse and Social Work Practice. In-depth knowledge of social work assessment of both individuals and families involved in substance abuse. Students are provided with advanced knowledge and skills in various social work intervention models applicable to the area of substance abuse. Prerequisite: completion of foundation or transition courses or consent of school.

531-2 Psychosocial Disorders. This course provides a basic knowledge of psychopathology and how it impacts individual functioning and family dynamics. Students become familiar with the theoretical basis and the basic structure of DSM-IV and models of interdisciplinary clinical practice in mental health. Prerequisite: admission to program.

532-3 Evaluation Research. This course focuses on the application of research methods especially in evaluating programs or program components in the area of concentration and to the practicum experience. Includes content on self-evaluation in practice. Prerequisite: 542 and introduction to statistics course.

533-2 Social Work Practice in the Schools. In-depth examination of the history and practice of social work in primary and secondary schools. Roles of school social workers and practice approaches are emphasized. Prerequisite: completion of foundation or transition courses and admission to the School of Social Work certification program.

535-3 Legal Aspects of Social Work Practice. Examination of law and legal procedures that relate directly to social work practice in general. Legal perspectives of a specific concentration field of practice are discussed in depth. Prerequisite: completion of foundation or transition courses or school consent.

541-4 Foundation Practicum/Seminar I. Structured and supervised on-site field practice in selected agency with concurrent seminar.

Practicum is equivalent to twelve hours per week for 15 weeks (360 hours) and seminar meets once per week for two hours. Graded *S/U*. The seminar emphasized the relationship between practice, policy, HBSE and research curricula. Prerequisite: admission to the program.

542-4 Foundation Practicum/Seminar II. Second on-site field practice with concurrent seminar. Continuation of 541. Graded *S/U*. Prerequisite: 541.

543-1 to 6 Advanced Practicum/Seminar I. On-site concentration specific field practice in an approved agency with appropriate supervision. Practicum is equivalent to twelve hours per week for 15 weeks with a concurrent seminar. Credit based on time spent in the agency. Six credit hours of practicum will be equivalent to 360 on-site hours. Field practicum requirement (six credit hours) may be met through two consecutive semesters or one block field placement. The practicum and practicum seminar focus on the application of advanced generalist theory, knowledge and skills covered in the curriculum. Prerequisite: completion of foundation courses or advanced standing and 502, 512 and 522.

544-1 to 6 Advanced Practicum/Seminar II. A continuation of the concentration specific practicum of three days in the field for 15 weeks with a concurrent seminar. Graded *S/U*. Continuation of 543. Prerequisite: 543.

546-2 to 4 Selected Topics in Advanced Social Work. Advanced knowledge and skills particularly useful for management and supervision in social services with application to case materials. Theories, models and techniques of modern human service management, especially suitable to multiple-service agencies in rural settings. Prerequisite: completion of foundation or transition courses or consent of school.

550-2 Social Work Practice in Health and Mental Health Settings. Examination of social and emotional impacts of illness and death on individuals. Implications of physical and mental disorders to social work practice are discussed with particular emphasis on cultural, racial, religious, gender and other psychosocial aspects of illness. Prerequisite: completion of foundation or transition courses or school consent.

551-3 Health and Mental Health Practice I. This is the first of a two-part course that emphasizes health and mental health delivery within systems theory and an advanced generalist practice skills framework. Includes case studies and exercise aimed at practice with diverse populations in rural areas. Provides instruction on diagnosis using psychopathology and DSM-IV. Prerequisite: completion of foundation or standing and 502, 512 and 522.

552-3 Health and Mental Practice II. The second of the practice course on advanced skills in health and mental health. Continuation of 551. Application of treatment modalities. Prerequisite: 543.

555-3 Advanced Policy Analysis: Health and Mental Health. This course applies a systematic analytical framework for a critical and in-depth analysis of federal, state and local policies that shape programs affecting health and mental health in rural settings. Examines how policy impacts practice with diverse populations. Prerequisite: completion of foundation or transition courses or school consent.

quisite: completion of foundation courses or advanced standing and 502, 512 and 522.

557-3 Community Mental Health and the African-American. Introduction to clinical techniques useful for facilitating community functions and changes within the context of the African-American experience. An exploration of the culture of the African-American community builds the basis for community mental health service strategies. Prerequisite: completion of foundation or transition courses or consent of school.

558-3 Women and Community Mental Health. Examination of mental health problems of American women and exploration of effective interventive strategies. Emphasis on rural mental health services for low-income women. Prerequisite: completion of foundation or transition courses or consent of school.

559-3 Aging and Mental Health. Examination of the nature and etiology of mental health problems facing older Americans. Review of research reports to build a theoretical basis for mental disorders. Prerequisite: completion of foundation or transition courses or consent of school.

560-2 Social Work Practice with Children and Youth. Advanced level of knowledge and skills that are relevant to the prevention and amelioration of problems related to maladaptive parent-child interaction, parental inability to provide child care, parents' unrealistic expectations of a physically and mentally limited child. Prerequisite: completion of foundation or transition courses or school consent.

561-3 Children, Youth and Families Practice I. This is the first part of a two-part course that emphasizes family-centered practice (family preservation, integrated services) within systems theory and an advanced generalist practice skills framework. Includes case studies and exercises aimed at practice with diverse populations in rural areas. Provides instruction on diagnosis using psychopathology and DSM-IV. Prerequisite: completion of foundation courses or advanced standing and 502, 512 and 522.

562-3 Children, Youth and Families Practice II. The second part of the practice course on advanced skills. Continuation of 561. Application of treatment modalities. Prerequisite: 543.

565-3 Advanced Policy Analysis: Children, Youth and Families. This course applies a systematic analytical framework for a critical and in-depth analysis of federal, state and local policies that shape programs affecting children, youth and families in rural settings. Examines how policy impacts practice with diverse populations. Prerequisite: completion of foundation courses or advanced standing and 502, 512 and 522.

567-2 Seminar in School Social Work. Exploration of policies, programs, practice and legislative trends affecting public service in school social work. Prerequisite: 533.

570-3 Gerontology and Social Work. Examines the major psycho-social and ecological theories of human aging within the framework of social work practice. Extrapolations of those theories and application of them to social work practice and research are emphasized. Prerequisite: completion of foundation or transition courses or consent of school.

575-3 Policy and Program Issues of Aging. Examination of public policies that impact on the quality of life of the elderly. Major programs are identified and analyzed. Future policy issues are discussed. Prerequisite: completion of foundation or transition courses or consent of school.

576-1 to 6 Selected Topics in Aging Practice Issues. Examination of selected knowledge and skills useful for gerontological social work practice. In-depth study on specific topics will be conducted. Prerequisite: 570.

577-1 to 4 Selected Topics in Research. Individualized advanced research projects related to student interest. Graded *S/U*. Prerequisite: completion of foundation or transition courses or consent of school.

578-3 International Social Work. Critical examination of nature and scope of social welfare programs in other nations including: personal social services, income maintenance, health care and social development programs. Emphasis on policies in Third World countries. Prerequisite: completion of foundation or transition courses or consent of school.

598-1 to 4 Social Work Research Paper. Preparation of a final research paper as partial requirement for the M.S.W. degree. Graded *S/U* only. Prerequisite: completion of foundation or transition courses and approval of the school.

599-3 Thesis in Social Work. A partial and optional requirement for the M.S.W. degree. A written report of the student's research project in the area of concentration. Prerequisite: completion of all foundation or transition courses or school consent. Graded *S/U* only.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Sociology

E-mail: sociolgy@siu.edu

COLLEGE OF LIBERAL ARTS

Alix, Ernest K., Associate Professor, *Emeritus*, Ph.D., Southern Illinois University at Carbondale, 1966; 1967.

Best, Joel, Professor and *Chair*, Ph.D., University of California at Berkeley, 1971; 1991. De-

viance and social control, social problems, sociology of popular culture, history of crime.

Blinde, Elaine M., Associate Professor, Ph.D., University of Illinois, 1987; 1987. Sociology of sport, gender, social psychology.

Brooks, Melvin, Associate Professor, *Emeritus*, Ph.D., University of Wisconsin, 1941; 1956.

Burger, Thomas, Associate Professor, Ph.D., Duke University, 1972; 1973. Theory, history of social thought, social stratification.

Hawkes, Roland K., Associate Professor, *Emeritus*, Ph.D., Johns Hopkins University, 1967; 1970.

Hendrix, Lewellyn, Professor, Ph.D., Princeton University, 1974; 1971. Family and kinship, cross-cultural research.

Hope, Keith, Professor, Ph.D., London University, 1963; 1986. Statistics, social stratification and mobility, methods, political sociology.

Matsuo, Hisako, Assistant Professor, Ph.D., University of California, Riverside, 1994; 1994. Race and ethnicity, complex organizations, comparative studies, methods.

McDermott, M. Joan, Associate Professor, Ph.D., State University of New York, Albany, 1979; 1992. Criminal justice, juvenile delinquency and juvenile justice; women, crime and criminal justice; victims of crime; policy analysis.

Nall, Frank C., II, Associate Professor, *Emeritus*, Ph.D., Michigan State University, 1959; 1964.

Schneider, Mark A., Assistant Professor, Yale, 1985; 1994. Theory, culture, and science.

Shelby, Lon R., Professor, *Emeritus*, Ph.D., University of North Carolina, 1962; 1969.

Snyder, Charles R., Professor, *Emeritus*, Ph.D., Yale University, 1954; 1960.

Taub, Diane E., Associate Professor, Ph.D., University of Kentucky, 1986; 1987. Deviant behavior, medical sociology, social psychology.

Ward, Kathryn B., Professor, Ph.D., University of Iowa, 1982; 1982. Social demography, women, cross-national studies.

Williams, Rhys H., Associate Professor, Ph.D., University of Massachusetts, Amherst, 1988; 1989. Political sociology, culture, religion, theory.

Associate Faculty in Doctoral Program

Castellano, Thomas C. Admin. of Justice
Ferdinand,

Theodore N. Admin. of Justice

Garofalo, James Admin. of Justice

Riedel, Marc P. Admin. of Justice

The Department of Sociology offers graduate work leading to the M.A. and Ph.D. degrees. The M.A. degree program gives students an opportunity to acquire a general knowledge of sociology through lecture courses, seminars, and exposure to a variety of theoretical and methodological approaches. The Ph.D. degree program is centered around advanced offerings in the areas of theory-methods, family, power and inequality, culture, and deviance. The faculty of the department is research-oriented and supports such an orientation on the part of its students. The department maintains a small library and computer facility.

Admission to Graduate Study in Sociology

The department requires an undergraduate GPA of 3.0 for admission to the M.A. degree program and a graduate GPA of 3.5 for admission to the Ph.D. degree program. Reference letters and transcripts of all undergraduate and graduate academic grades must be submitted to the department for review by the graduate admissions committee. Scores from the Graduate Record Examination are recommended. International students must achieve 550 or better on TOEFL scores. Persons seeking more information should write: Director of Graduate Studies, Department of Sociology, Southern Illinois University at Carbondale, Carbondale, IL 62901-4524.

Graduate Assistantships and Fellowships

Assistantships for qualified students are available through the department on a competitive basis. There are also various fellowships awarded by the Graduate School in University-wide competition. Students funded through the department are required to enroll in three courses each semester, taking no more than one audit and one individual readings course each academic year. Funding is limited to four semesters for M.A. degree students and eight semesters for Ph.D. degree students. A student's continued funding is contingent on the student's normal progress in the program and on the availability of funds.

Master of Arts Degree

The Master of Arts degree in sociology requires a minimum of 32 semester hours of course work and a research paper. The specific course requirements are: SOC 501, Classical Sociological Theory; SOC 526a, Quantitative Methods in Sociol-

ogy; SOC 512, Sociological Research; three research seminars in sociology; one additional 400 or 500 level course in sociology; and four semester hours in SOC 591, Individual Research (for completion of the master's degree research paper). The director of graduate studies serves as academic adviser for all M.A. degree students.

Master's Research Paper. The research paper is developed from a seminar paper produced in a 500-level sociology course. Students wishing to do a master's research paper on a topic not covered under the seminar offerings can petition the department's graduate studies committee for an exception to this rule. The faculty member in charge of the seminar will also serve as the adviser for the master's research paper. Students will enroll with this faculty member for 4 semester hours in SOC 591, Individual Research, for the completion of the research paper. This course can be taken concurrently with or after the research seminar. The research paper will then be submitted for evaluation to another faculty member appointed by the director of graduate studies, in concurrence with the faculty adviser for the paper. The master's research paper normally is 20 to 40 pages in length and uses the standard ASA reference style. In addition to the copy required by the Graduate School, 1 suitably bound copy must be deposited in the department library.

Early Admission to the Ph.D. Degree Program. Upon completion of 2 semesters of full-time study, a student may petition to waive the M.A. degree and be admitted to the Ph.D. degree program in sociology, if the following conditions have been met: 1) minimum GPA of 3.7 during the first year of study; and 2) departmental approval of a research paper completed during the first year of study. The procedure and standards for approval of the paper are the same as with the regular master's research paper.

Doctor of Philosophy Degree

Advisement. The responsibility for initial advisement rests with the director of graduate studies. As soon as possible, the director of graduate studies, in consultation with the student, will request an appropriate member of the department's graduate faculty to serve as the student's academic adviser. This adviser will help prepare a general plan of study. Any change of adviser must have the concurrence of the director of graduate studies.

It is the student's responsibility to develop, in consultation with the adviser, a plan of study designating the primary and secondary areas of examination. At this point, the student expresses a preference for a program committee of 3 or 4 faculty representing the chosen areas of examination. After consultation with the appropriate faculty, the director of graduate studies appoints the student's program committee and enters the membership of the committee in the student's records, along with the declared primary and secondary areas of examination. The program committee is chaired by the student's academic adviser.

Research Tool Requirement. Doctoral students must complete the following courses: SOC 501, 502, 512, and 526a,b. In addition to these courses students must develop research skills that are appropriate and necessary for their dissertation research. It is the responsibility of the student's program adviser to supervise the student's development of these research skills.

Course Work and Readings. In addition to the regularly offered courses and seminars, the department provides supervised readings and research courses, depending upon the availability of faculty members. Supervised readings and research courses are not to be taken as substitutes for regularly scheduled courses

and seminars, and registration in them requires prior approval by the student's adviser.

Preparation of a Readings List. Students are expected to prepare themselves for comprehensive examinations through course work and reading. Each student must develop, with the assistance of the program committee, a readings list covering the student's examination areas. This readings list must include major works in each of the examination areas. It must also include the most recent works pertinent to the student's anticipated dissertation research. The readings list as a whole, must be prefaced by a statement of purpose providing a rationale for the selected titles. The final list must be approved, in formal session, by the student's program committee, no later than the end of the full-time student's third semester in residence.

Comprehensive Examinations. Each student must declare 2 primary areas for the comprehensive examination (one of which must be sociological theory-methods) and 2 secondary areas of examination. Students, in consultation with their advisers, may select their own examination areas. However, the student must have taken at least 1 graduate seminar in each primary area, or be able to show other substantial preparation in the area while at SIUC.

One secondary area may be chosen in a department other than sociology. The student shall in this case meet the requirements for a Ph.D. secondary field in the department concerned. Relevance of the outside area to the student's total program must be demonstrated, and approval must be obtained from the graduate studies committee.

To qualify for the status of candidate for the Ph.D. degree, the student must pass written comprehensive examinations. Examinations are based on the final readings list as approved by the student's program committee. The comprehensive examinations consist of a six-hour exam in each primary area and a three-hour exam in each secondary area.

The examinations are prepared, administered, and evaluated by the student's program committee and supplemented by other members of the graduate faculty, in order to provide at least two readers in each of the primary and secondary areas. For each primary and secondary area, the student must obtain the consent of two faculty members with competence in the area to serve as readers. The student and adviser must submit a list of the student's areas and proposed readers to the director of graduate studies. The chair of the program committee also serves as chair of the examination committee. Supplementary members of the examination committee are, upon the recommendation of the program committee's chair, appointed by the director of graduate studies.

The comprehensive examinations must be taken during the full-time student's fifth semester in the program. The student may take all exams in either the fourth or the twelfth week of the semester, or opt to take one primary and one secondary exam at the early date and the rest at the later date. It is the responsibility of the chair of the examination committee, and of the director of graduate studies, to ensure that the examinations are properly prepared, scheduled, administered, and monitored.

Examination results are reported to the director of graduate studies by the chair of the student's examination committee within two weeks from the date of the examination, and the director of graduate studies notifies the student of the results. A failed examination in any area must be retaken no later than the next semester's scheduled dates. If an area exam is failed a second time, the graduate studies committee must be petitioned for the privilege of a final retake. The written petition must include the student's diagnosis of the reasons for the failure and a detailed plan for remedial work. The recommendation of the graduate studies committee is forwarded to the department chair, who has the final deci-

sion on the matter. A student is entitled to a combined total of no more than three retakes.

On successful completion of the comprehensive examinations and upon the recommendation of the director of graduate studies to the dean of the Graduate School, the student attains the status of candidate for the Ph.D. degree.

Dissertation. The dissertation is the single most important requirement for the Ph.D. degree, and the student should start thinking about potential dissertation topics soon after admission. Information concerning Graduate School requirements regarding the dissertation is contained in the Graduate Catalog.

After completing comprehensive examinations, the student selects a dissertation director who must be approved by the department chair and the dean of the Graduate School. In consultation with the dissertation director, the student prepares a detailed dissertation prospectus, showing clearly the purpose and scope of the research, its relation to the previous work in the field, its theoretical relevance and significance, and the research methods and techniques. The prospectus must contain a section documenting the student's training and abilities in using the proposed research methods and techniques. When the prospectus is ready for presentation, the department chair appoints a dissertation committee with the student's dissertation director serving as chair. The dissertation committee shall consist of 5 graduate faculty members, including 1 from outside the Department of Sociology.

The prospectus must be approved by the dissertation committee in formal session and filed with the graduate program secretary. A prospectus must be approved no later than the end of the full-time student's sixth semester in the program.

Dissertation Defense. The completed dissertation must be acceptable to the chair of the dissertation committee before being circulated among committee members for evaluation.

After acceptance of the dissertation by the candidate's dissertation committee, an oral examination will be conducted by the committee in open meeting, as specified by Graduate School regulations. This examination will be based upon the contents and implications of the dissertation. The examination may not be scheduled sooner than 4 weeks after the completed dissertation has been distributed to the dissertation committee. A public announcement and a copy of the dissertation shall be made available to other faculty of the department at least 1 week before the examination. Upon satisfactory completion of the oral examination, the student must submit 2 copies of the dissertation to the Graduate School and another copy, suitably bound, must be deposited in the department library.

Expected Progress Through the Ph.D. Degree Program for a Full-Time Student.

Semesters 1 and 2: Course work: Minimum grade point average of 3.5; at least four 500-level sociology courses to be taken during the 2 semesters.

Semester 3: Course work and approved reading lists.

Semester 4: Course work and intensive preparation for comprehensive examinations.

Semester 5: Comprehensive examinations.

Semester 6: Approved prospectus.

Semester 7: Dissertation.

Semester 8: Dissertation.

Criminal Justice Option. A student who has been admitted to the Ph.D. program in sociology, and whose major interest is in the area of crime or criminal justice, may elect to have up to two associate faculty members from the Center for the Study of Crime, Delinquency, and Corrections serve on his/her Dissertation

Committee, (an associate member may direct the dissertation). Under this arrangement, the Center's faculty are not considered external members. A student choosing this option may declare up to two areas of examination (primary or secondary) in the field of criminal justice.

Sociology as a Secondary Emphasis in Another Ph.D. Degree Program. A student who is enrolled in another Ph.D. degree program and who wishes to declare sociology as a secondary area must submit to the director of graduate studies a written request which includes the following: a plan of course work, a personal reading list, and an overall program statement indicating the relationship of the area in sociology to the student's total program.

Interdisciplinary Ph.D. Degree Program in Sociology. Students who have been admitted to the Ph.D. degree program in sociology, and who wish to develop an interdisciplinary program, should review the guidelines set forth by the Graduate School. The graduate dean approves interdisciplinary Ph.D. degree programs only when they bear the endorsement of a department that offers a Ph.D. degree program. A student who wishes to apply for an interdisciplinary program in which sociology will be the sponsoring department, should understand that the program of study must include substantial involvement in sociology courses and seminars, and that the department may require the student to meet other requirements similar to those established for the Ph.D. degree program in sociology.

Courses (SOC)

406-4 Social Change. Theories and problems of social change; their application, with emphasis on the modern industrial period.

415-3 Logic of the Social Sciences. (See Philosophy 415.)

423-4 Sociology of Gender. (Same as Women's Studies 442.) Examines social science theory and research on gender issues and contemporary roles of men and women. The impact of gender on social life is examined on the micro level, in work and family roles, in social institutions, and at the global, cross-cultural level.

424-4 Social Movements and Collective Behavior. A sociological analysis of the behavior of collectivities in uninstitutionalized settings; crowds, masses, publics, and social movements will be examined with relation to their social and cultural backgrounds, forms of expression and organization and their functions in society.

426-4 Social Factors in Personality and Adjustment. (Same as Psychology 464) Review of selected theoretical orientations and research traditions in social psychology. Comparison of different theoretical and methodological approaches — symbolic interaction, role theory, developmental and social psychology, theories of attitude organization and change, studies of belief and value systems, theories of socialization.

435-4 Social Inequality. Discussion of theories and evidence pertaining to the socio-structural causes and consequences of inequality based on social class, prestige, power, gender, wealth and income.

437-4 Sociology of Development. Survey of sociological theories of development including modernization, dependency, and world-system perspectives. Problem areas of development are examined: economic growth, state structures,

multinational corporations, labor force, education, migration, population and women's roles.

438-4 Sociology of Ethnic Relations in World Perspective. Examines theories, concepts and research on the structure of ethnic relations and ethnic problems in contemporary societies in major world regions. Assimilationist, pluralist, secessionist, and militant types of ethnic and racial group relations are covered in selected societies. Designed for students with advanced interest in comparative ethnic relations. Prerequisite: GEB 215 is recommended.

450-4 Social Thought. A survey of Western social thought from the ancient world to the founding of the modern social sciences in the 19th century.

460-4 Sociology of Medicine. Examination of the sociological factors involved in health and illness, the role of medicine in society, the organization of medical care and health institutions in the United States and the prospects for sociological research in this area.

465-4 Sociology of Aging. The adult life cycle from a sociological perspective, with emphasis on the later stages of adulthood. Special topics on aging include demographic aspects, family interaction, ethnicity and cross-cultural trends.

471-4 Introduction to Social Demography. Survey of concepts, theories, and techniques of population analysis; contemporary trends and patterns in composition, growth, fertility, mortality and migration. Emphasis is on relationship between population and social, economic, and political factors.

473-4 Juvenile Delinquency. (Same as Administration of Justice 473.) Nature of sociological theories of delinquency; analytical skills in studying the delinquent offenders; systematic assess-

ment of efforts at prevention, control and rehabilitation in light of theoretical perspectives. Prerequisite: 6 hours of social/behavioral science recommended.

474-4 Sociology of Education. Methods, principles and data of sociology applied to the educational situation; relation of education to other institutions and groups.

475-4 Political Sociology. (Same as Political Science 419.) An examination of the nature and function of power in social systems at both the macro- and micro-sociological levels of analysis, the social bases of power and politics; and various formal and informal power structures; the chief focus will be on American society.

476-4 Politics and Religion in Comparative Perspective. Examination of the interaction between politics and religion in the United States, with a comparative look at other nations and global regions. Consideration given to politics and religion as cultural and institutional systems, and to the impact of each upon the other.

484-3 Correctional Institutions. (Same as Administration of Justice 484.) Examination of the roles, purposes, structures and functioning of institutional corrections within the U.S.. Emphasis is placed on understanding the philosophies, elements, structures and programs that shape current institution operations and their impacts on offenders, staff and the community. Prerequisite: Administration of Justice 201, 290, 316 or consent of instructor.

501-4 Classical Sociological Theory. A systematic survey of sociological theory with the focus on 19th and early 20th-century sociological thought. An in-depth examination of a selected number of thinkers whose work laid the foundation for major schools of contemporary sociology. Students are expected to be familiar with the fundamentals of sociological analysis.

502-4 Contemporary Sociological Theory. A survey of major 20th-century theoretical orientations in sociology with emphasis on their differing modes of conceptualization and alternative research programs. Students are expected to be familiar with the classics of sociological thought.

506-4 Seminar on Contemporary Sociological Theory. Recent trends in sociological theory; current approaches to the construction and application of theoretical models and their relations to empirical research. Prerequisite: 501 or consent of instructor.

512-4 Sociological Research. An overview of sociological research methods including survey, quantitative, comparative-historical and ethnographic techniques of research. Special attention will be given to research design and implementation. Students will do one or more limited research projects and will write reports on the projects.

514-4 Qualitative Methodology. Focus on research strategies involving the systematic exploration, documentation and analytic description of social settings, interactions, meanings, lifeworlds and texts. Includes discussion of field observation, depth interviewing, oral histories/narratives, case studies, biographies and life histories, focus group interviewing, content analysis of written and visual data, historical/archival investigations, among other approaches.

521-4 Seminar in Social Psychology. In-depth examination of specific theoretical systems or substantive problems in social psychology. Students wishing specific information on the topic of the seminar should consult with the instructor for more detail. Prerequisite: 426 or consent of instructor.

526-8 (4,4) Quantitative Methods in Sociology. (a) Linear causal models as a tool in theory and research. Central tendency, variation, covariation and correlation. Bivariate and multivariate regression models. Path analysis and related techniques. Bivariate and multivariate statistics for nominal and ordinal measures. (b) Application of linear models. Linear models of measurement error, reliability and validity. Models of reciprocal causation feedback and control. The identification problem. Must be taken in a, b sequence. Prerequisite: graduate standing.

530-2 to 12 (2 to 4 per topic) Topical Seminar in Sociology. Content varies with interests of instructor and students. Prerequisite: consent of instructor.

533-4 Seminar in Social Stratification. Comparative study of power, social class, and status; conceptions of social structure and measurement techniques; explanations of social and occupational mobility; institutions and differential life-changes.

534-4 Seminar in Social Change. Overview of prevailing theories, research, and issues in social change. These include social and economic change in capitalism; modernization development and underdevelopment in the world system; gender; race and ethnic relations; class relations and labor markets; social and revolutionary movements.

539-4 Seminar in Complex Organizations. Overview of theories, research, and prevailing issues of complex organizations. These will include the power structure of the business community, emergence and structure of the bureaucratic organization, bases of authority, systems of formal and informal relations, unanticipated consequences of organizational structure, labor relations, total institutions and social movements as organizations.

542-4 Seminar on the Family. Overview of the theoretical approaches, substantive issues, and techniques of research and measurement in the study of American family life. Approaches include structural-functionalism, conflict theory, and the feminist critique. Among the substantive topics are family roles and relationships, kinship, relationships of the family to other institutions and family change.

543-4 Seminar on Comparative Family Systems. Analysis of cross-cultural and historical variation in family structure. Methods and sources of information for research on family structure.

544-4 Sociology of Gender. Examines major theories, themes and research methods on the intersection of gender, race, class and sexuality. Topics may include: construction of gender, race, class and sexual identities; work; social movements; intersection of family and work; parenting and reproduction; historical and cross-national dimensions.

550-4 Seminar in Social Problems. Theoretical perspectives and empirical findings on the emer-

gence and evolution of social problems. Examination of institutional responses and formation of social policy.

551-4 Sociology of Religion. Theoretical and empirical study of the origin, location and function of religious ideas and institutions in society.

552-4 Seminar in Race and Ethnic Relations. Overview of theories, research and prevailing issues of race and ethnic relations in contemporary societies. Discussions will include world expansion during colonialism, political economy of minority groups, class and gender issues in the global development.

555-4 Social Movements and Collective Action. A seminar designed to survey the major sociological approaches to social movements and collective action. Emphasis will be on movement culture, social movement organizations and the social environment in which collective action occurs.

562-4 Seminar in the Sociology of Deviance and Social Control. Critical analysis of sociological theories and methods used in the study of social deviance and control. Examination of social deviance such as suicide, mental illness, sexual variance, drug use and alcoholism.

572-4 Seminar in Criminology. Students will learn research methods appropriate to the stu-

dent of crime within various theoretical schools of criminology. Particular attention will be paid to quantitative and qualitative approaches to symbolic interactionism, functionalism, social structural, ecological and control theories.

591-1 to 4 Individual Research—Supervised Research Projects. Open to graduate students with a major in sociology. Graded *S/U* only. Prerequisite: consent of instructor and departmental director of graduate studies.

596-1 to 8 Readings in Sociology. Supervised readings in selected subjects. Graded *S/U* only. Prerequisite: consent of instructor and departmental director of graduate studies.

600-1 to 32 (1 to 16 per semester) Dissertation. Prerequisite: consent of chair.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Special Education

E-mail: lviernum@siu.edu

COLLEGE OF EDUCATION

Bates, Paul, Professor, Ph.D., University of Wisconsin, 1978; 1978.

Casey, John P., Professor, *Emeritus*, Ed.D., Indiana University, 1963; 1964.

Cordoni, Barbara, Professor, Ed.D., Duke University, 1976; 1977.

Crowner, James, Professor, *Emeritus*, Ph.D., Michigan State University, 1960; 1966.

Ewing, Norma J., Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1974; 1973.

Foley, Regina, Associate Professor, Ed.D., Northern Illinois University, 1989; 1990.

Hisama, Toshiaki, Associate Professor, *Emeritus*, Ph.D., University of Oregon, 1971; 1971.

Juul, Kristen, Professor, *Emeritus*, Ph.D., Wayne State University, 1953; 1970.

Miller, Sidney, Professor, Ph.D., Pennsylvania State University, 1974; 1978.

Morgan, Howard, Professor, *Emeritus*, Ed.D., Wayne State University, 1962; 1969.

Mundschenk, Nancy, Assistant Professor, Ph.D., University of Iowa, 1992; 1992.

Teska, James A., Associate Professor, Ph.D., University of Illinois, 1969; 1973.

The Department of Educational Psychology and Special Education offers programs leading to the Master of Science in Special Education and Doctor of Philosophy in Educational Psychology. Special education faculty participate in the Ph.D. in Educational Psychology.

Master of Science in Education degree

The Master of Science in Education is designed for persons with previous special education and/or regular education certification, and also for individuals from related human service degree programs such as psychology and social work. Experiences leading to this degree are designed to develop an advanced level of competency related to individualizing instruction and providing social supports for individuals with disabilities in school and non-school settings. Completion of the master's degree program does not automatically result in certification and/or entitlement. Students wishing certification and/or entitlement should work closely with their adviser.

Admission to the master's degree program requires a minimum undergraduate grade point average of 2.7 on a 4.0 scale. Applicants with grade point averages less than 2.7 may be admitted conditionally. A non-refundable application

fee of \$20 must be submitted with the application. Attach your check or money order, payable to Southern Illinois University, to the top of the application form. Do not send cash. Only checks or money orders payable to United States banks will be accepted.

The Master of Science in Education degree in Special Education requires a minimum of 30 semester hours. Program requirements include the following five core courses: SPED 500-3 (Research Issues in Special Education), SPED 578-3 (Legal Issues in Special Education), SPED 511-3 (Curriculum Based Assessment and Instructional Design for Exceptional Children and Youth), SPED 550-3 (Behavioral Management of Exceptional Children and Youth), and SPED 515-3 (Collaboration-Based Delivery Systems in Special Education). In addition to the 15 credit hours of core course requirements, students must complete the following requirements: SPED 594 3-6 (Practicum in Special Education) and SPED 599 3-6 (Thesis or Research Paper). Additional electives in the Masters Program allow students to develop an area of emphasis such as early childhood special education, special education supervision, collaborative teaching, behavior management and support strategies, and community inclusion.

For students seeking Illinois state approval in Early Childhood Special Education, they must complete the following course work in conjunction with their other Masters Program requirements: SPED 400, SPED 405, SPED 412, SPED 505, C&I 513, and C&I 518. For students seeking supervisory certification, they must be certified in at least one area of special education and have a minimum of two years teaching experience in their area of certification. In conjunction with their Masters Program, these students must complete EAHE 501, EAHE 503, EAHE 517 or EAHE 519, EAHE 511 or C&I 531 or C&I 571, SPED 513, and SPED 514.

The Masters Degree Program in Special Education requires a total of at least 30 semester hours to be taken from graduate level courses. The student must successfully defend the thesis or research paper in an oral examination. A comprehensive examination over the field of special education is also required and conducted by the student's committee chair and two additional committee members.

All full-time graduate students in the department may be required to work a maximum of 5 hours per week in departmental activities as part of their professional development.

Doctor of Philosophy Degree in Education

The Department of Educational Psychology and Special Education offers programs leading to the Master of Science and the Doctorate of Philosophy. At the Ph.D. level, the Department of Educational Psychology and Special Education conforms to the doctoral program in education. The program concentration is in Educational Psychology, with a specialty in Special Education. Inquiries regarding application should be directed to the chair. See the description of the Ph.D. degree in education.

Courses (SPED)

400-3 Introduction to Special Education. An overview of characteristics of all types of exceptional children and youth including physical, mental, emotional and social traits. The course also covers the effects of disabling conditions in learning situations, and an overview of the history of special education including legislation and litigation.

401-3 Characteristics of Children and Youth Labeled Emotionally Behaviorally Disordered and Learning Disabled. The course presents the behavioral, emotional, physical and

learning characteristics of children and youth labeled emotionally and behaviorally disordered and learning disabled. Screening, identification, placement, instructional practices, classroom management and use of related services for individuals with emotional and behavioral disorders or learning disabilities will be examined. Prerequisite 300 or concurrent enrollment.

402-3 Characteristics of Children and Youth with Mild, Moderate, Severe and Profound Mental Retardation. Presents historical, theoretical and research developments in the field of

mental retardation. Provides the basic developmental, identification, assessment, instructional and curricular background for prospective educators of individuals with mild, moderate, severe or profound mental retardation. Prerequisite: 300 or concurrent enrollment.

403-3 Characteristics of Children and Youth Labeled Gifted. Designed to help teachers in the identification of and programming for children labeled gifted and talented. Prerequisite: 300 or concurrent enrollment or consent of department chair.

404-3 Characteristics of Children and Youth Labeled Learning Disabled. Behavioral, emotional, physical and learning characteristics of children and youth, with learning disabilities. Emphasis on receptive and expressive modalities for learning; theories dealing with causes and management. Prerequisite: 300 or concurrent enrollment or consent of department chair.

405-3 Introduction to Early Childhood Special Education: Infants, Toddlers and Preschoolers with Special Needs and Families. This course presents an overview of early childhood special education including typical and atypical early development, federal and state legislation, goal setting, IEP and IFSPs, working with families, service delivery, case-management, curriculum methods and procedures for enhancing development in young children with special needs. Prerequisite: 300, concurrent enrollment, or consent of instructor.

406-3 Characteristics of Children and Youth with Moderate and Severe Disabilities. Presents historical, theoretical and research developments in service delivery for individuals of all ages (0-21) with severe disabilities. Provides the basic developmental, instructional and curricular background essential for prospective educators. Emphasizes a behavioral approach. Thirty hours of observation or equivalent applied experience is required.

408-3 Integrating Children and Youth with Disabilities in Normalized Environments. For regular education and related service personnel who provide services for children and youth with a disability. This course focuses on providing an understanding of essential characteristics and methods required to provide an appropriate education for students with disabilities.

409-1 to 6 Cross-Cultural Studies. Seminar and/or directed independent study concerned with socio-cultural variables affecting the educational needs of children and youth with a disability. Prerequisite: 300 or consent of instructor and department chair.

411-3 Assessment in Special Education. Course covers general assessment information, norm reference testing, curriculum based assessment, adaptive behavior scales and issues relating to cultural diversity. Prerequisite: 300, 401 or 402, or concurrent enrollment.

412-3 Introduction to Assessment and Curriculum Methods in Early Childhood Special Education. This course presents an introduction to child and family assessment and the development of child and family goals in early childhood special education. Topics will include types of assessment commonly used, rationale for assessment, methods of assessment, reporting assess-

ment results, writing child and family goals. A fee for testing materials is required. Prerequisite: 300, concurrent enrollment or consent of instructor.

417-3 Behavior Management for Children and Youth with Disabilities. The course focuses on the implementation of behavior management strategies and tactics to be used with students with disabilities in a variety of educational environments. Prerequisite: 300, 401 or 402, 411, 423.

418-3 Methods and Materials for Teaching Children and Youth with Mental Retardation. The course covers instructional approaches, strategies and materials for teaching children and youth with mild, moderate and severe mental retardation. Prerequisite: 300, 312, 315, 411, 423.

419-3 Academic Methods and Materials for Teaching Students with Learning Disabilities and Emotionally Behavioral Disorders. The course covers the academic methods and materials used with learning disabled and behavior disorders, seriously emotionally disturbed children and youth in the schools and community. Prerequisite: 300, 312, 315, 401, 411, 423.

421-3 Methods and Materials for Teaching Children and Youth Labeled Moderately and Severely Disabled. Emphasizes a behavioral approach (i.e., systematic instruction) in teaching young students with severe disabilities (e.g., moderate MR, severe MR, profound MR, multiple handicapped, autistic). Systematic instruction is discussed in relation to applications across various curriculum domains. Each student must have access to working with students labeled moderately and severely disabled during the semester. All students are to develop and implement an instructional program during the course of the semester. Prerequisite: 300, 406.

423-3 General Procedures in Special Education. Presents key provisions of Public Law 94-142 and subsequent amendments, including Individualized Education Programs (IEPs). Course content also includes principles of applied behavior analysis and effective instruction of students with disabilities. Prerequisite: 300, 401, 402, 411 or concurrent enrollment.

425-3 Home-School Coordination in Special Education. The course covers techniques used in parent interviews, conferences and referrals by school personnel; due process and procedural safeguards for parents and youth with disabilities. Prerequisite: 300, 312, 315, 401 or 402, 411, 423 or concurrent enrollment in 417 or 419.

430-3 Secondary Programming for Students with Disabilities. Deals with modifications of and additions to school programs to ensure that they are appropriate to the needs of adolescents with disabilities. Content includes coverage of remedial and compensatory program models, transition programming, career and vocational education. Prerequisite: 300, 312, 315, 401 or 402, 411, 423 or concurrent enrollment with 417 or 418 and 419.

431-2 Work-Study Programs for Adolescents Labeled Severely Disabled. Deals with program offerings in public school special education programs designed to prepare adolescents labeled severely disabled for maximum vocational ade-

quacy. Prerequisite: 300 and one of 401, 402, 404 or 406.

500-3 Research Issues in Special Education. Students will study issues and research practices in special education and will learn how they both conduct research, translate research findings and develop practices in special education based on research outcomes. Prerequisite: consent of instructor.

501-3 Methods and Materials for Persons with Severe Behavior Challenges. Deals with methods, materials and instructional management practices common to the instruction and management of student experiencing severe behavioral challenges in the schools and in residential settings.

503-3 Educational Program Delivery for Gifted and Talented Students. Planning implementation and evaluation of differential educational programs for gifted and talented students. Reviews historical through modern day approaches to the systematic delivery of educational services to exceptional populations. Evaluation methods for the expansion and refinement of gifted programming are planned. Prerequisite: 403.

505-3 Organizing and Implementing Early Childhood Special Education Programs. This course presents the philosophy and current best practices involved in the development and maintenance of Early Childhood Special Education programs. Content will include models of teaming and working with children and adults, legal and ethical issues, interagency coordination, transition, multicultural concerns, parent support and involvement, integration, program evaluation and supervision. Prerequisite: 400, 405, concurrent enrollment and using ECSE literature as a resource program.

511A-3 Curriculum Based Assessment and Instructional Design for Exceptional Children and Youth. Development, implementation and utilization of Curriculum-Based Assessment (CBA) programs to guide the development and delivery of effective instructional programs for children and youth with disabilities. Students will develop a thorough knowledge and skill base in the integration of Curriculum-Based Assessment as a component of the instructional design and decision-making processes used to develop appropriate instructional programs for children and youth with disabilities.

511B-3 Advanced Remediation in Special Education. Designed to provide the graduate student with experience in designing and implementing a remedial program. Prerequisite: 511A.

512-3 Advanced Child and Family Assessment, Curriculum Methods and Evaluation in Early Childhood Special Education. This course presents advanced coursework and practical experience in child and family assessment, development and selection of curricula and evaluation in Early Childhood Special Education. Students will review current assessment, and curricula packages, conduct evaluations, and write assessment reports. Practical experience will be an integral part of this course. Prerequisite: 400, 405, 412, or concurrent enrollment, and consent of instructor and chair.

513-3 Organization, Administration, and Supervision in Special Education. Emphasis upon the functions, underlying principles and cautions to be observed in the organization and administration of special education. The selecting and training of teachers, problems of supervision, special equipment, transportation, cooperating agencies and legal aspects of the problem. Prerequisite: 400 and consent.

514-3 Simulation of Administrative Tasks in Special Education. Development of skills required of special education administrators and supervisors through the use of simulation materials focusing on developing administrative skills. Prerequisite: 400 and consent.

515-3 Collaboration-Based Delivery Systems in Special Education. Designed to provide students with a thorough knowledge and skill base in the collaboration process including problem-solving processes, communication skills and conflict resolution skills. Collaboration-based approaches will be examined as alternative systems and methods of meeting the educational needs of students with disabilities within a continuum of special education services.

516-3 Advanced Assessment for Educationally Handicapped Youth in Special Education. Administration and interpretation of typical instruments used to gain information to be used in program planning for adolescents in special education programs. Designed to provide potential secondary teachers with thorough knowledge of testing procedures, this course will include supervised practicum in testing and development of remedial programs. Prerequisite: 411.

517-2 The Atypical Child and Social Agencies. A survey of social agencies contributing to the welfare and care of exceptional children. Emphasis is given to services rendered and to method of contact and costs. Specialists invited to appear before the class. Prerequisite: 400 and consent.

518-1 to 6 Workshop in Special Education. Topical workshops centered on current practices and new developments in special education. Designed to promote better understanding of the psychological and educational problems of exceptional children. Open to graduate students majoring in education and related fields. Prerequisite: 400 and consent of instructor and department chair.

519-3 Career Development Opportunities for Educationally Handicapped Youth. This course is designed to prepare special educators to understand the career needs of the educationally handicapped youth and the procedures for developing appropriate career services for such students. Prerequisite: 430.

550-3 Behavior Management of Exceptional Children and Youth. Describes assessment, implementation, and monitoring procedures involved with the use of behavior change techniques in special education programming. Emphasis will be placed on the actual implementation of behavior change techniques with handicapped school aged students in public school settings. Prerequisite: concurrent enrollment in 594 and Rehabilitation 406 or consent of instructor.

560-2 Inservice Delivery. Covers theoretical and practical aspects of inservice delivery/staff

development. Special focus on organizing inservice programs, delivery techniques, consultative skills development, select inservice models, needs assessment and evaluative techniques. Prerequisite: Curriculum and Instruction 483 or consent of instructor.

578-3 Legal Framework for Special Education Services. Covers PL 94-142 (Education for all Handicapped Children Act) and Section 504: The Rehabilitation Act of 1973. Emphasis on both pieces of legislation with respect to provision of educational services for handicapped children and youth/young adults. Prerequisite: 400, or concurrent enrollment, or consent of instructor.

580-3 Master's Seminar: Issues and Trends in Special Education. Analysis of research, trends, and programs in the education of handicapped children. Open to graduate students in special education only. Prerequisite: 400, consent of instructor and department chair.

582-3 Post-Master's Seminar: Theories and Models in Special Education. Critical discussion of eight major intervention models used historically and currently with handicapped children in educational settings. Prerequisite: consent of instructor.

583-3 Post-Master's Seminar: Program Coordination in Special Education. Analysis of organizational principles and practices required for the creation and maintenance of programs to meet the needs of persons who are handicapped and require specialized educational programs within the school setting. Prerequisite: consent of instructor.

584-3 Doctoral Seminar: Research in Special Education. An analysis of purposes, approaches, design, methodology, and applications of experimental studies of handicapping conditions, as they relate to special education. Prerequisite: 582, 583.

585-3 Doctoral Seminar: Evaluation in Special Education. An analysis of the purposes, approaches, design, methodology and applications of evaluative studies in special education. Prerequisite: 582, 583.

586-1 to 4 (1,1,1,1) Proseminar in Special Education. A topical seminar providing for the systematic discussion of current research in the field of special education. Specific content is determined by participating faculty and students, relative to current faculty research and dissertations in progress within the department. Doctoral students will register for a total of four credit hours, one per semester, after which they will audit the course during the pursuit of their dissertation. Master's students admitted with consent of adviser and department chair.

590-1 to 6 Readings in Special Education. Study of a highly specific problem area in the education of exceptional children. Open only to graduate students. Graded *S/U* only. Prerequisite: 400, consent of instructor.

591-1 to 6 Independent Investigation. A field study for graduate students. Conducted in a school system where full cooperation is extended. The study will involve selection of a problem, surveying pertinent literature, development of experimental design and procedures, recording results and appropriate interpretations and summaries. Prerequisite: consent of instructor.

594-1 to 6 Practicum in Special Education. Supervised experience in school or institutional programs for atypical children. Special research project. Open to graduate students only. Prerequisite: consent of instructor and department chair.

595-1 to 12 (1 to 6) Internship. The doctoral internship is a required experience. Internship hours do not apply to minimum needed for graduation. Each student shall engage in specialized service areas within a school system, university, state office, federal office, or private agency. Internship assignments include: (a) Research and applied studies; (b) Evaluation; (c) Administration; (d) University teaching; (e) Program planning and management; (f) Supervision; and (g) Specialized delivery systems. Interns will participate in regularly scheduled on-campus or on-site seminars with the university and field internship supervisors.

599A-1 to 6 Thesis. Independent hours to be taken under the supervision of the student's Master's degree chair for the purpose of conducting and writing the Master's thesis. Prerequisite: consent of instructor.

599B-1 to 6 Research Paper. Independent hours to be taken under the supervision of the student's Master degree chair for the purpose of conducting and writing the Master's research paper. Prerequisite: consent of instructor.

600-1 to 32 (1 to 12 per semester) Dissertation. Prerequisite: consent of chair.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Speech Communication

E-mail: spcmgrad@siu.edu

COLLEGE OF LIBERAL ARTS

Crow, Bryan, Associate Professor, Ph.D., University of Iowa, 1982; 1981. Interpersonal communication, conversation analysis, media studies.

Daughton, Suzanne, Assistant Professor, Ph.D., University of Texas-Austin, 1991; 1990. Rhetorical theory and criticism.

Ekachai, Daradirek, Assistant Professor, Ph.D., Southern Illinois University at Carbondale, 1991; 1990. Public relations, intercultural communication.

Glenn, Phillip, Associate Professor and *Chair*, Ph.D., University of Texas-Austin, 1987; 1989.

Conversation analysis, interpersonal communication, laughter, play, conversational performance, conflict.

Hetherington, Laurel T., Assistant Professor, Ph.D., University of Iowa, 1981; 1995. Interpersonal communication, public relations, communication management.

Higgerson, Mary Lou, Associate Professor, Ph.D., University of Kansas, 1974; 1973. Organizational communication and public relations.

Hinchcliff-Pelias, Mary, Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1982; 1983. Communication and instruction, research methods, quantitative, special populations and communication instruction.

Kleinau, Marion L., Professor, *Emeritus*, Ph.D., University of Wisconsin, 1961; 1959.

Kleinau, Marvin D., Associate Professor, *Emeritus*, Ph.D., Southern Illinois University at Carbondale, 1977; 1963.

Langsdorf, Lenore, Professor, Ph.D., State University of New York at Stonybrook, 1977; 1990. Communication, rhetorical, argumentation, and social-political theory.

Lanigan, Richard L., Professor, Ph.D., Southern Illinois University at Carbondale, 1969; 1974. Continental-contemporary rhetoric, semiotics, phenomenology of communication, intercultural communication.

McOmber, James, Assistant Professor, Ph.D., University of Iowa, 1991; 1994. Rhetorical theory,

public address, rhetoric of science, psychoanalysis.

Pace, Thomas J., Professor, *Emeritus*, Ph.D., University of Denver, 1957; 1965.

Parkinson, Michael, Associate Professor, Ph.D., University of Oklahoma, 1978, J.D., Southern Illinois University at Carbondale, 1987; 1978. Public relations and legal communication.

Pelias, Ronald, Professor, Ph.D., University of Illinois, 1979; 1981. Performance methodologies and criticism, performance art.

Pineau, Elyse, Assistant Professor, Ph.D., Northwestern University, 1990; 1990. Women's autobiography and personal narratives in performance.

Smith, William D., Associate Professor, *Emeritus*, Ph.D., Southern Illinois University at Carbondale, 1964; 1961.

Stucky, Nathan, Assistant Professor, Ph.D., University of Texas-Austin, 1988; 1990. Performance studies, staging literature, conversation analysis, dramatic literature.

Willis, Jennifer, Assistant Professor, Ph.D., Bowling Green State University, 1997; 1997. Communication education, intercultural communication.

Winchatz, Michaela, Assistant Professor, Ph.D., University of Washington, 1997; 1997. Interpersonal communication, ethnography, language and social interaction.

At a time when many speech communication departments are staffed by individuals representing the same school of thought, our department has a healthy diversity of outlooks and approaches. Nevertheless our diversity has not prevented the development of an exceptionally supportive interpersonal climate. While we argue about a great many issues, we are committed as colleagues to effective teaching and productive scholarship. We believe that our students share these commitments, and we are most anxious to recruit students who want to study in such an environment.

Our facilities include a superior laboratory for oral performance studies, the Calipre stage, computer terminal laboratory room, video tape laboratory, library, and research carrels all housed in the department. We offer graduate assistants the opportunity for independent teaching experiences as well as the usual support duties as teaching and research assistants. All graduate students are eligible for training experiences through internships in business, governmental, and political organizations.

Financial Assistance

There are several forms of financial assistance available to graduate students in the Department of Speech Communication. First, there are graduate fellowships awarded on the basis of superior scholarship, which do not require any departmental service. Second, there are several special fellowships offered annually to students who show promise of success in graduate studies even though their academic records have been only average because of economic or social disadvantages. These special fellowships have no service requirements. Third, there are graduate assistantships available which require up to 20 hours per week of service in teaching or research. Finally, there are dissertation research awards for students in their final year of work toward the Ph.D. degree.

The stipends for the above awards currently range from \$5976 to \$6372 for the 9 month academic year depending on the level of graduate study of the appointee and the type of appointment. These rates may be increased for the forth-

coming year. All the appointments, fellowships, and assistantships, also include a waiver of tuition (both in-state and out-of-state) for the student, although the student is responsible for student fees. Students who hold assistantship appointments for 2 consecutive semesters also receive a tuition waiver for the following summer session, and a limited number of appointments pay stipends for summer assignments as well.

Applications for financial assistance may be obtained by writing: Director of Graduate Studies, Department of Speech Communication, Southern Illinois University at Carbondale, Carbondale, Illinois 62901-6605. Completed applications for fellowships should be received by February 1 for appointment during the subsequent fall semester. Applications for fall semester assistantships should be received by March 1.

The Department of Speech Communication offers 3 graduate programs of instruction and research in the discipline of human communication leading respectively to the Master of Arts, Master of Science, and Doctor of Philosophy degrees.

Curriculum. The graduate faculty of the department offers curriculum areas in communication education, interpersonal communication, philosophy of communication, performance studies, and (at the doctoral level) theater as well as course work in intercultural communication (including semiotics), organizational communication and public relations, political communication, and rhetoric and public address.

Admissions. Applicants must meet the minimum requirements of the Graduate School and should have completed a minimum of 24 quarter or 16 semester credit hours in speech or related subjects. A program for remedying deficiencies in background can be arranged upon petition to the graduate committee of the Department of Speech Communication. In some instances applicants will be accepted for direct entry from the baccalaureate to the doctoral program when the graduate committee identifies high achievement and potential in the applicant's undergraduate work. Master's degree students seeking the Ph.D. degree should make application when they are within 16 hours of completing the degree.

Application for admission to graduate studies in speech communication should be directed to the director of graduate studies of the Department of Speech Communication. The GRE Aptitude Test is not required as a condition for admission but is strongly recommended. In some cases it may be requested to support application materials. Except for persons from English-speaking countries, international students are required by the department to have a TOEFL score of 600 or higher for admission. In addition to materials sent to the Graduate School, each applicant should submit to the Department of Speech Communication three recommendations from former instructors and an application form indicating professional and personal objectives. In addition, applicants for the Ph.D. degree program may be requested to furnish a thesis or research paper as evidence of research and writing ability.

A non-refundable application fee of \$20.00 must be submitted with the application. Attach your check or money order, payable to Southern Illinois University, to the top of the application form. Do not send cash. Only checks or money orders payable to United States banks will be accepted.

Acceptance for graduate study in speech communication and subsequent continuation in the graduate program is determined by the graduate committee of the Department of Speech Communication. Students who are awarded graduate assistantships to provide assistance in the instruction of the department are required to take SPCH 539 if they have not had previous teaching experience at the secondary, college, or university level; the course is strongly recommended for all students planning careers in university teaching.

Research Style. In most cases graduate students are required to write a term research paper for each course taken; and, depending on the degree program, each student is required to write a research report, thesis, or dissertation. In all cases the writing must conform to the latest edition of *The MLA Style Manual* or the *APA Publication Manual*, depending on the nature of the research. In all cases the writing must conform to the current edition of the *Graduate School Guidelines for the Preparation of Research Reports, Theses, and Dissertations*.

Master's Degree Programs

A minimum of 30 semester credit hours is required for the M.A. or M.S. degree. At least 15 of these hours must be at the 500 level. A student who completes only the minimum of 30 hours of work may devote no more than 9 hours to work outside the Department of Speech Communication. However, a student may petition the graduate committee for a program to include 15 hours outside the department. Such outside work must be germane to one of the departmental curriculum areas for purposes of research and examination. Competence in one foreign language is required for the M.A. degree. Competence may be demonstrated by (1) E.T.S. examination, (2) achieving a grade of *B* or *A* in FR 488, GER 488, RUSS 488, or SPAN 488, or (3) achieving a passing grade in other approved foreign language courses on campus, a list of which is available in the department office. Current standards for passing the E.T.S. examination in French, German, Russian, or Spanish are available from the director of graduate studies.

A faculty adviser is named for the individual student before the end of the first semester. The faculty adviser and the student will plan the program of study. The program must consist of course work in at least 3 curriculum areas. In order to satisfy a given area of study, a student must complete at least 6 semester hours of work in that area. A course used for one curriculum area may not be counted toward another area. A comprehensive written examination is taken during the last semester of study.

The requirements for the master's degree may be met by either of the following plans chosen by the student in consultation with the adviser.

Plan 1: Thesis. Each student must complete a minimum of 30 semester credit hours, with no more than 6 hours or fewer than 3 hours of thesis credit in SPCH 599 counted toward the 30 hour minimum. In addition, the student must register for at least one semester hour of credit in SPCH 599 during any academic term in which the services of any faculty member are utilized in the supervision of or consultation concerning the thesis. If the student's reliance upon faculty assistance justifies, the director may require an appropriately greater number of semester hours in SPCH 599. The thesis is submitted to a committee of 3 members of the graduate faculty, at least 2 of whom must be from the Department of Speech Communication. The committee must approve the prospectus and will administer an oral examination over the thesis. Students are required to submit 2 copies of the thesis to the Graduate School, one copy to the Department of Speech Communication, and one copy to the thesis director.

Plan 2: Research Report. Each student must complete a minimum of 30 semester credit hours, with no more than 3 hours or fewer than 1 hour of research report credit in SPCH 595 counted toward the 30 hours minimum. A research report is submitted as evidence of research competence. This paper should be based on a special project or specific courses as recommended by an advisory committee composed of the student's adviser and one other member of the graduate faculty in the Department of Speech Communication selected by the student and the adviser. This advisory committee must approve the research paper before it is submitted to the graduate committee and, then, to the Graduate School. One copy of the research report is submitted to the Graduate School,

one copy to the Department of Speech Communication, and one copy to the adviser.

The subject of the thesis or research report must be in one of the curriculum areas chosen by the student. A student must have a graduate grade point average of 3.25 in order to be eligible for the master's degree.

Doctor of Philosophy Degree

A minimum of 42 semester credit hours of course work plus 9 hours of methodology (tool) courses beyond the master's degree and 24 semester credit hours of dissertation work are required for the Ph.D. degree. Course work outside the department must be germane to one of the departmental curriculum areas for purposes of examination and dissertation research. Throughout the program of study, the student must maintain a 3.25 grade point average in all work taken. If the grade point average drops below the minimum, the student is placed on academic warning for the following two semesters.

During the last half of the second semester of course work, the student's progress shall be reviewed by the advisory committee to determine continuation, change, or termination of the program. The advisory committee for each student shall be responsible for assembling the necessary information (grades, recommendations, progress in curriculum areas, etc.) for consideration in reaching the above decision.

Advisory Committee. A 3 person advisory committee shall be established during the first semester of graduate study to plan the program of study with each student. The chair of the committee shall act as the primary adviser and sign the graduate course request form. This advisory committee is responsible for certifying to the graduate committee that the student has met all departmental requirements for admission to candidacy and has passed the Ph.D. preliminary examination.

The advisory committee and the student will plan the program of study. The program of study focuses on at least one curriculum area. All students are required to take SPCH 501, Introduction to Speech Communication Research and SPCH 510, Rhetoric and Communication. Also students must take a minimum of 9 hours of methodology courses prescribed by the chosen curriculum area. Students selecting theater as a curriculum area must take 18 hours of speech communication courses including SPCH 501 and 510.

Attendance is required at proseminars as part of professional development. Graduate students are encouraged to present their scholarly work.

Preliminary Examination. The student must pass a preliminary examination on each of the declared curriculum areas in the program of study. The preparation and administration of the examination are determined by the advisory committee in consultation with the student. The examination is taken near the end of the course work.

Dissertation. Each student must register for at least 24 semester hours of dissertation credit in SPCH 600 or SPCH 601 or THEA 600 or THEA 601. In addition, the student must register for at least one semester hour of credit in SPCH 600 or THEA 600 during any academic term in which the services of any faculty member are utilized in the supervision of or consultation concerning the dissertation. If the students' reliance upon faculty assistance justifies, they may be required by the dissertation adviser to register for an appropriately greater number of semester hours.

The dissertation director shall, upon consultation with the student, be responsible for setting up a dissertation committee, supervising the dissertation, and administering the final oral examination. The dissertation committee shall ap-

prove the dissertation prospectus and pass upon the completed dissertation and oral examination. Students are required to submit two copies of the dissertation to the Graduate School, one copy to the Department of Speech Communication, and one copy to the dissertation director.

Interdisciplinary Program. Students who have been admitted to the doctoral program in speech communication and who wish to develop an interdisciplinary program, should review the guidelines set forth by the Graduate School. The graduate dean approves interdisciplinary Ph.D. programs only when they bear the endorsement of the principal sponsoring department. A student who wishes to apply for an interdisciplinary program in which speech communication will be the principal sponsoring department should understand that the program of study must include substantial involvement with courses in speech communication and that the department may require the student to meet other requirements similar to those established for the doctoral program in speech communication.

Courses (SPCM)

401-3 Communication Theories and Models. An introduction to theory construction and model utilization in communication research. Critical analysis of existing communication theories in the social sciences as a basis for generating new models. Emphasis on the heuristic nature and function of the language/speech act paradigm in communication studies. Satisfies the College of Liberal Arts Writing-Across-the-Curriculum requirement for Speech Communication majors.

411-3 Rhetorical Criticism. Designed to develop the student's ability to criticize public discourse, including speeches, written works, and the mass media. Satisfies the College of Liberal Arts Writing-Across-the-Curriculum requirement for Speech Communication majors.

421-3 to 9 (3,3,3) Studies in Public Address. Critical studies of speakers and issues relevant to social and political movements dominant in national and international affairs. A lecture, reading and discussion course. Students may repeat enrollment to a total of nine hours.

430-3 Speech in Elementary Schools. Survey of normal speech development with emphasis on the elementary school years. Concept of speech as skill basic to reading, writing and spelling. Psychological and sociological variables affecting language as it relates to school learning. Speech experiences supportive of the child's linguistic, intellectual and social development.

433-3 Children's Literature in Performance. Study of children's fiction and poetry through analysis, creative drama, and performance, including solo and group work.

435-3 to 6 (3,3) Topics in Performance Studies. An exploration of advanced theories and techniques for performance studies. Topics vary and are announced in advance. Students may repeat enrollment in the course, since the topics change. Lecture, discussion, class projects.

440-3 Language Behavior. Study of linguistic approaches to speech communication based on behavioral determinants such as culture, history, speech community, value orientations, social perception and expression and the nature and function of interpersonal transaction. Prerequisite: 340 or consent of instructor.

441-3 Intercultural Communication. Application of semiotic and cultural theories to language behavior. Emphasis on speech communication as an approach to the study of intercultural communication. Prerequisite: 341 or consent of instructor.

442-3 Psychology of Human Communication. Nature, development, and functions of verbal and nonverbal behavior; application of psychology theories and research to the communication process in individuals and groups. Emphasis on the systemic nature of communicative behavior.

443-3 General Semantics. Formulations from the works of Alfred Korzybski and from neo-Korzybskian interpreters are presented. General semantics is discussed as an interdisciplinary approach to knowledge. Relationships are made to contemporary problems in human affairs.

444-3 Studies in Language Acquisition. Research in and theories of the development of verbal and nonverbal language with attention to the maturational process. Includes investigation of social, phonological, syntactical and semantic correlates of communication development. Appropriate for advanced students interested in working with or conducting research involving children.

445-3 Conversational Performance. Analysis of performance acts within everyday interaction: stories, jokes, laughter, teasing, etc. Application of theories of play, metacommunication and framing. Re-performance of recorded, transcribed conversations as method of exploring aesthetic dimensions of communication. Prerequisite: nine hours of Speech Communication courses or consent of instructor.

446-3 Sociology of Language Discourse and Signs. Introduction to sociological semiotics, especially structuralism and post-structuralism. Reference to French theorists such as Barthes, Baudrillard, Bourdieu, Certeau, Deleuze and Guattari, Greimas, Group Mu, Lacan, Lyotard and Perelman. Emphasis on the practice of discourse, language, and signs as a model for research in the human science of communicology.

451-3 Political Communication. (Same as Political Science 418.) A critical review of theory and research which relate to the influence of commu-

nication variables on political values, attitudes and behavior. Prerequisite: 358 or consent of instructor.

452-3 Interpersonal Communication and the Mass Media. A review, synthesis and analysis of communication theory and research which deals with the process, interactive nature of interpersonal and mass channels of communication. Prerequisite: 401 or consent of instructor.

460-3 Small Group Communication: Theory and Research. A critical examination of small group theory and research in speech communication. Emphasis is given to the development of principles of effective communication and decision-making in the small, task-oriented groups. Prerequisite: 261 or consent of instructor.

461-3 Laboratory in Interpersonal Communication I. Interpersonal communication is studied as human encounter. The philosophy and theoretical bases of existential phenomenological approaches to human communication are discussed. Projects are evolved by small groups that contribute to the understanding of human communication.

462-3 Laboratory in Interpersonal Communications II. Various theories of social and cultural change are explored. The role of interpersonal communication in the development of human consciousness is explicated. Projects are evolved by small groups that examine values and priorities of human nature and cultural nature.

463-3 Interpersonal Conflict. Study of sources, patterns and outcomes of conflict in interpersonal relationships. Emphasis on interactive, systems-level analysis of naturally-occurring conflict episodes. Practice in managing conflicts, reframing, negotiation and mediation. Prerequisite: for undergraduates, 262 or consent of instructor.

465-3 Philosophy of Language. (See Philosophy 425.)

471-3 Prose Fiction in Performance. Study of prose fiction through analysis and individual performance. Satisfies the College of Liberal Arts Writing-Across-the-Curriculum requirement for Speech Communication majors. Prerequisite: 370 or consent of instructor.

472-3 Poetry in Performance. The study of poetic form through analysis and performance. Prerequisite: 201, 370 or consent of instructor.

473-3 Narrative, Performance and Identity. An exploration of culture, ritual, narrative, community and personal identity as performance. Readings, field work, and assignments focus on performance ethnography, communicative dimensions of performance and performance epistemology.

474-3 to 6 (3,3) Studies in Interpretation. An exploration of selected current topics in the field of performance studies. May be repeated for a total of six hours. Prerequisite: twelve hours of performance study courses or consent of instructor.

475-3 to 6 (3,3) Production Texts and Contexts. Advanced study related to theoretical and practical issues in performance staging with special emphasis on textual production, scripting, social contexts and performance practices. May be repeated for a total of six hours. Prerequisite: six hours of performance studies courses or consent of instructor.

476-3 Writing as Performance. An examination of the practical and theoretical links between composition and performance. Lectures, reading and assignments focus on performance as a means and an end to creative writing. Satisfies the College of Liberal Arts Writing-Across-the-Curriculum requirement for Speech Communication majors.

480-3 Dynamics of Organizational Communication. Introduction to interrelationships of communicative behavioral and attitudes with organizational policies, structures, outcomes. Uses case studies and role-plays to teach principles. Individual research into selected aspects of organizational communication. Prerequisite: 280, 442, or consent of instructor.

481-3 Public Relations Cases and Campaigns. Advanced course in public relations case analysis and campaign planning. Students critique public relations campaigns created by various profit, nonprofit and agency organizations. Students also design public relations campaigns from problem identification through evaluation stages. Satisfies the College of Liberal Arts Writing-Across-the-Curriculum requirements. Prerequisite: 381 and 382 with a grade of C or better.

483-3 Studies in Organizational Communication. Study of communication systems and behaviors within organizations. Consideration of relevance of communication to management operations, employee morale, networks, superior-subordinate relations, production and organizational climates. Individual research into selected aspects of organizational communication. Prerequisite: 480 or consent of instructor.

490-1 to 6 Communication Practicum. A supervised experience using communication skills. Emphasis on the development of performance skills in the following areas: (a) Communication studies. (b) Performance activity. (c) Interpersonal communication. (d) Debate and forensic activity. (e) Political communication. (f) Organizational communication. (g) Instructional communication. May be repeated for credit. Undergraduates limited to a total of six hours and graduate students to three to be counted toward degree requirements.

492-2 to 8 Workshop in Performance Studies. Summer offering concentrating in specialized areas of performance studies. Prerequisite: 201 and 370 or consent of instructor.

493-3 to 9 (3,3,3) Special Topics in Communication. An exploration of selected current topics in communication arts and studies. Topics vary and are announced in advance; both students and faculty suggest ideas. Students may repeat enrollment in the course, as the topic varies.

501-3 Introduction to Speech Communication Research. Survey of research methods utilized in the discipline of speech communication. Discussion of these methods as they apply to the various subject matter typologies. Introduction to basic conventions of research investigation and reporting.

502-3 Seminar: Quantitative Communication Research. Review and analysis of types of quantitative research and methods of data collection most relevant to the study of human communication. Prerequisite: 501.

503-3 Communicology as a Human Science. Introduction to the human science approach (phenomenology) to theory construction in human communication. Examination of the modality conditions for evidence (actuality, possibility, necessity, sufficiency) and the corresponding logics (assert, problematic, apodictic, thematic) for qualitative research. Focus on the Abduction models of human communication and practice used by theorists such as Gregory Bateson, Paul Waltzlawick, Roman Jakobson, Charles S. Pierce, Maurice Merleau-Ponty and Michel Foucault.

504-3 Seminar: Empirical Phenomenological Communication Research. Review and analysis of the types of empirical phenomenological research and methods of capta/data collection relevant to the study of human communication. Prerequisite: 501 and 503.

505-3 Seminar: Semiotic Phenomenology and Critical-Cultural Research. Review, analysis, and application of eidetic and hermeneutic models for conducting interpretive research in the tradition of semiology and phenomenology. Focus on those qualitative approaches which use a critical-cultural context of investigation in the human sciences, especially communicology. Prerequisite: 503 and 504 or consent of instructor.

506-3 Ethnography of Communication. Survey of research literature and methods in the ethnography of communication, emphasizing description of communicative practices situated in particular cultural contexts. Course includes such topics as theoretical assumptions and genres of ethnographic writing.

510-3 Seminar: Rhetoric Theory. A survey of selected theories of rhetoric. Emphasis on major contributors of historical or contemporary importance.

513-3 to 9 (3,3,3) Studies in Rhetoric. An exploration of selected topics in the field of rhetoric. May be repeated with change of topic area. Topics announced prior to each offering. May be repeated up to nine hours.

515-3 to 9 (3,3,3) Communication and Gender. How communicative activity constitutes and sustains human beings as gendered. Emphasis on gaining familiarity with contemporary research on gendering from a particular perspective (e.g. ethnography, performance, phenomenology, quantitative methods, rhetorical criticism). May be repeated when perspective varies. Perspective announced prior to each offering.

526-3 Seminar: Studies in Persuasion. The study of persuasion in social-political contexts. Exploration of contemporary research and selected theories in persuasion. Examination of philosophical-ethical questions related to persuasion. Readings, research and discussions.

531-3 to 9 (3,3,3) Seminar: Speech Education. Advanced study of selected problems in speech communication instruction. Analysis of research problems and methodologies in speech pedagogy research. Topics may vary from year to year. Prerequisite: consent of instructor. May be repeated only if topic differs each time repeated.

539-3 Speech Communication at University Level. Analysis and practice of instructional methods. Focus on the development of instructional skills with specific applications to teaching the basic college speech communication course.

540-3 Seminar: Language, Culture, and Semiology. Examination of communication problems and research focusing on the relation among cultural values, communication behaviors in the speech community, and social exchange. Emphasis on the semantics and pragmatics of intercultural communication and social semiotic systems. Prerequisite: 440 or 441 or consent of instructor.

545-3 Seminar: Semiology and Semiotic Communication. Advanced study of sign, signal, and symbol systems in the phenomenology of communication. Systematic analysis of the metatheory relationship between expression and perception as manifest in verbal and nonverbal communication systems. Emphasis on semiology as a communication theory in the human sciences. Some consideration of related theories such as structuralism, interspecies communication, human/machine communication and general systems theory. Prerequisite: 440 or 441 or consent of instructor.

546-3 Conversation Analysis: Pragmatics. (Same as Linguistics 546.) Study of the pragmatics of everyday conversation: sequential organization, topical coherence, speech act rules and functions, contextual frames, and background understandings. Emphasis on observational research methods and analysis of original data. Prerequisite: consent of instructor.

547-3 Conversation Analysis: Ethnomethodology. (Same as Linguistics 547) Descriptive study of sequential organization of interaction. Students read research literature and learn methods for transcription and analysis in the conversation analytic tradition. Topics include openings and closings, adjacency pair organization, turn taking, overlap, assessments, pre-sequences, repair, topic, nonvocal activities, response, laughter, storytelling, argument, play and institutional contexts. Prerequisite: consent of instructor.

551-3 Phenomenology Seminar I: French Communicology. A critical examination of dominant problematics, thematics, and rhetorics in communication theory and praxis developed as a human science (*science humaine de communicologie*) by such contemporary French theorists as Barthes, Bourdieu, Foucault, Merleau-Ponty, Perelman and Ricoeur. Prerequisite: 401 and 461 or consent of instructor.

552-3 to 9 (3,3,3) Phenomenology II: German Communicology. Ways of studying human communication which derive their impetus, orientation, or construal of questions and answers, theories and methods, from the German intellectual (philosophical and social-scientific) tradition. Focus on (a) Hermeneutic phenomenology, (b) Frankfurt School critical theory, and (c) Phenomenological sociology/ethnomethodology. May be repeated with change of focus. Focus announced prior to each offering.

561-3 to 6 (3,3) Studies in Small Group Communication. Studies of group action, interaction and leadership designed to apply small group theory and communication theory. Emphasis on the nature of group communication as exemplified in the laboratory model or the discussion/conference model. Students may repeat enrollment to a total of six hours.

562-3 to 9 (3,3,3) Philosophy of Human Communication. (Same as Philosophy 562.) Study of

selected topics in the philosophical study of communication. May be repeated with change in topic area. Topics announced prior to each offering.

563-3 Studies in Interpersonal Communication. An investigation of recent theories and empirical research concerning interpersonal communication. Emphasis will be placed on analyses of relational development, maintenance and change in the contexts of working relations, friendships and families. Both analytic and quantitative perspectives on interactional processes will be considered.

570-3 Performance Methodologies. The examination of performance methodologies for exploring human communication. Particular attention is given to generating and reporting performance knowledge. Prerequisite: nine hours of 400 level performance studies courses or consent of instructor.

571-3 History and Criticism in Performance Studies. A study of social and critical trends in performance studies with emphasis on their historical development. Prerequisite: nine hours of performance studies or consent of instructor.

572-3 Theory and Criticism in Performance Studies. A study of the theoretical trends in performance studies and literary criticism. Prerequisite: nine hours of performance studies or consent of instructor.

573-3 Performance Criticism. An examination of the theoretical and practical issues surrounding the evaluation of artistic performances for interpretation, rhetoric, theatre, journalism, film and television students interested in developing their critical skills. Prerequisite: consent of instructor.

574-3 to 6 (3,3) Studies in Performance. An exploration of selected current topics in the field of performance studies. May be repeated for a total of six hours. Prerequisite: twelve hours of performance studies courses or consent of instructor.

576-3 Performance Art. The study and creation of postmodern performance. Particular attention

is given to performance artists in the theatrical tradition. Prerequisite: nine hours of performance studies or consent of instructor.

580-3 to 9 Issues in Organizational Communication and Public Relations. Advanced study and applications related to specific issues in (a) Organizational communication, (b) Public relations, and (c) Political communication. May be repeated with change of topic area. Topics announced prior to each offering. Prerequisite: consent of instructor.

593-1 to 3 Research Problems in Communication. Independent research study with a theoretical focus under the tutorial supervision of a member of the graduate faculty. Prerequisite: consent of instructor and departmental adviser.

595-1 to 3 Research Report. One to three hours required of all non-thesis students writing a research paper. Graded *S/U* or *DEF* only.

598-0 Proseminar in Human Communication. An open forum offered each semester for the systematic discussion of contemporary research in the field of communication arts and studies. Specific content is determined by participating faculty and students. Topics will usually be related to current faculty research or dissertations in progress in the department. Graded *S/U* only.

599-1 to 6 Thesis. Minimum of three hours to be counted toward a Master's degree.

600-1 to 36 (1 to 12 per semester) Dissertation. Minimum of 24 hours to be earned for the Doctor of Philosophy degree.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Teaching English to Speakers of Other Languages

(See Linguistics for program description.)

Telecommunications

E-mail: telecom@siu.edu

COLLEGE OF MASS COMMUNICATION AND MEDIA ARTS (This program is currently under revision.)

Dybvig, Homer E., Associate Professor, *Emeritus*, Ph.D., Southern Illinois University at Carbondale, 1970; 1961.

Foote, Joe S., Professor and Dean, *Mass Communication and Media Arts*, Ph.D., University of Texas at Austin, 1979; 1986. Political news and management.

Gher, Leo A., Assistant Professor, M.S., Southern Illinois University at Carbondale, 1980; 1983. Sales, management, and programming.

Hodgson, Scott, Associate Professor, M.S., Southern Illinois University at Carbondale, 1992; 1988. Television production.

Johnson, Phylis W., Assistant Professor, M.A., Texas A&M University, 1985; 1990. Radio production.

Kaye, Barbara K., Assistant Professor, Ph.D., Florida State University, 1994; 1994. Media effects, mass communication, theory, and writing.

Keller, Kenneth R., Associate Professor, M.A., University of Illinois, 1966; 1984. Broadcast journalism, television production.

McCray, Judith, Assistant Professor, M.A., Rutgers University, 1985; 1994. Television documentary writing and production.

McDowell, Walter, Assistant Professor, M.A., University of Central Florida, 1994; 1997. Sales and management.

Murrie, Michael, Associate Professor, M.A., University of Missouri, Columbia, 1977; 1988. Television news and new media.

Riley, Peter, Assistant Professor, M.S. in Education, Southern Illinois University at Carbondale; 1995; 1996. Distance learning/www-based training, network-based interactive multimedia solu-

tions, training solutions for non-traditional student.

Robbins, Buren C., Associate Professor, *Emeritus*, M.A., University of Iowa, 1935; 1949.

Shipley, Charles W., Professor, *Emeritus*, Ph.D., Florida State University, 1971; 1971.

Sitaram, K. S., Professor, Ph.D., University of Oregon, 1969; 1979. Social effects, new technologies, and intercultural communications.

Smart, Douglas, Assistant Professor, M.A., University of Phoenix, 1996; 1997. Network television directing, television producing.

Starr, Michael, Associate Professor and *Chair*, J.D., Georgetown University Law Center, 1965; 1988. Broadcast law and policy, promotion, management.

The Master of Arts degree in telecommunications provides advanced professional training for students preparing for leadership positions in radio and television broadcasting, cable television, corporate video, and related fields. Content areas include the structure and organization of broadcast-related industries, mass media theories, economic and management perspectives, emerging new technologies, policy and regulatory issues, content criticism and review, programming innovations, international perspectives, and societal effects. Graduates of the program advance to leadership positions in broadcast stations, cable systems, production houses, corporate and public sector video departments, or teach in colleges and universities.

Admission

A baccalaureate degree is required from an accredited university for admission to the M.A. degree in telecommunications with preference given to those who have studied radio-television. For students coming from non-radio/TV backgrounds or whose preparation is lacking in certain areas, additional undergraduate course work may be required by the graduate faculty. Courses taken to satisfy deficiencies will not be counted towards the M.A. degree. Applicants must submit an application form obtained from the department, transcripts of all undergraduate work, evidence of scholarship such as a research paper, and evidence of proficiency in a foreign language or computer programming. In addition, all applicants must fulfill the requirements for admission to the Graduate School.

A non-refundable application fee of \$20.00 must be submitted with the application. Attach your check or money order, payable to Southern Illinois University, to the top of the application form. Do not send cash. Only checks or money orders payable to United States banks will be accepted.

Requirements

A minimum of 30 graduate credit hours is required for the M.A. degree in telecommunications. Of these, 6 hours must be taken in an outside department but related to the student's program and approved by the student's adviser. For example, courses in business administration may be chosen by students focusing their studies in the area of management. A minimum of 18 hours must be successfully completed at the 500 level or above. All students in the program are required to successfully complete RT 500 Introduction to Research in Telecommunications, RT 532 Telecommunications Research, RT 573 Telecommunications Management, RT 571 Telecommunications Policy. Students are also required to complete selected other 500 level courses in their major.

As a part of the 30 hours required for graduation, each student must select one of two options:

Plan 1. Thesis. Each student must complete a minimum of 30 semester credit hours including a traditional written thesis (RT 599, Thesis) which counts 3 to 6 hours in the program. An oral examination by the faculty advisory committee is given upon completion of the thesis.

Plan 2. Research report. Each student must complete a minimum of 30 semester hours including an individual research report (RT 591, Individual Study in Telecommunications) which counts 3 hours in the program. A research report is required which should be based upon supervised research or an independent investigative project approved by the student's advisory committee. An oral examination by the faculty advisory committee is given the student upon completion of the research report.

During the first semester of course work, the student will be appointed a major adviser and a committee of 2 additional graduate faculty members. The committee will work with the student to prepare a specific plan of study. The major adviser will also serve as the director of the student's thesis. In all instances students will be required to pass comprehensive examinations upon completion of course work and prior to work on the thesis.

Retention

A 3.0 grade point average in course work taken at the 400 level and above is required. It is expected that students will be in full-time residence for a minimum of one calendar year. A maximum of 12 hours of relevant transfer credit may be accepted into the student's program.

M.A. in Telecommunications/M.B.A. Concurrent Degree Program

The Department of Radio-Television (R-TV) in the College of Mass Communication and Media Arts (MCMA) and the College of Business and Administration (COBA) together offer an M.A. in telecommunications/M.B.A., a concurrent degree program leading to both the Master of Business Administration and the Master of Arts degrees with a major in telecommunications. The M.B.A. degree requires completion of 32 semester hours of coursework; the M.A. with a major in telecommunications requires the completion of 30 semester hours of coursework. In the concurrent M.A. in telecommunications/M.B.A. degree program, COBA accepts 6 semester hours of R-TV approved coursework, and R-TV accepts 6 hours of COBA approved coursework. The end result is that the concurrent degree program entails completion of 26 semester hours of COBA approved courses and 24 semester hours of R-TV approved courses, for a total of 50 hours; this is a savings of 12 semester hours over pursuing both degrees separately outside of the M.A. in telecommunications/M.B.A. concurrent degree program.

Students interested in enrolling in the concurrent M.A. in telecommunications/M.B.A. program must apply to both the graduate program in R-TV and the graduate program in COBA. The student must be accepted by both programs. This initiates the process to pursue the concurrent degrees.

Students enrolled only in the M.A. in telecommunications or only in the M.B.A. in COBA may request admission into the other program and approval to pursue the concurrent degree program. Admission to the concurrent degree program must be done one semester prior to the last semester of registration at SIUC.

Courses (RT)

Graduate work in the Department of Radio-Television is offered toward the Master of Arts degree in telecommunications. Four-hundred-level courses in this department may be taken for graduate credit unless otherwise indicated in the course description.

430-3 News and Public Affairs Programming. Examination of history and scope of news and public affairs programming. Effects of public affairs on programs and audiences. Responsibility of radio and television stations in news and public affairs and community relations. Issues in news and public affairs including ethics. Prerequisite: Mass Communication and Media Arts 201, senior standing, successful completion of language skills exam.

450-3 Documentary - Style Production. Develop, write, and produce documentary - style and long - form broadcast stories intended for broadcast. Research, develop, write and produce several mini - documentaries and/or one 30 - 60 minute documentary. Prerequisite: 365 and/or consent of instructor; 465 recommended.

453-3 Educational and Public Broadcasting. The history and regulatory structure of educational and public broadcasting in the United States today, with special emphasis on organizations regulated under the Public Broadcasting Act of 1967. Methods of funding public stations, programming and careers in educational and public broadcasting considered. Prerequisite: Mass Communication and Media Arts 201, 300 and successful completion of the language skills exam.

461-3 Multimedia Production. Student can learn the fundamental concepts and skills necessary to produce simple interactive multimedia presentations using an assortment of media. Prerequisite: senior standing and consent of instructor.

463-3 Advanced Audio Production. Advanced theory of sound, patching, multichannel and digital production, as it applies to radio/TV and related fields. Advanced commercial and promotional audio projects; laboratory hours required. Students participate in studio and on-location audio sessions. This course also introduces the concepts of SMPTE and MIDI: students learn to interface computers with video and musical instruments for various audio applications. Prerequisite: C in 363 or consent of instructor, successful completion of language skills exam.

465-3 Advanced Television Production. Instruction and practical experience in the development of programming for television. Students will produce individual and/or small group project for broadcast and follow the projects through from concept to completion. Many of the projects will air on WSIU-TV. Prerequisite: 365 or consent of instructor.

467-3 International Broadcasting. An examination of broadcasting theory related to rural audiences in the United States and abroad. History of farm broadcasting in the United States and abroad. Communications in development is explored. Research on effects on rural audiences. Open to non-majors with consent of instructor. Prerequisite: senior standing, Mass Communication and Media Arts 201, 300 and successful completion of language skills exam.

470-3 Television News Field Production. Advanced field reporting for television. Students will work under the supervision of the instructor to develop, investigate and report news stories for television. This process will also study the development and production of the mini-documentary. Class will utilize 3/4-inch video recorders, cam-

eras and editing systems. Prerequisite: Successful completion of language skills exam, 370 or consent of instructor.

480-3 The Internet and Mass Communication. A critical examination of the Internet from a mass communication perspective. Emphasis on theory, media convergence, broadcast entertainment, news, marketing, advertising, and public relations opportunities and strategies, include Web site design and basic HTML. Prerequisite: consent of instructor.

481-3 Non-Broadcast Television. An examination of the special requirements of business, industrial and medical uses of television. Management, budgeting, planning and evaluating productions. Exploration of cable television, satellites and other technologies used in non-broadcast situations. Prerequisite: 365 or concurrent enrollment or consent of instructor, successful completion of language skills exam.

482-3 Client-Based Production. Small teams work a client to create the video projects. Students will be responsible for budgeting, working with clients directly, scripting, shooting, editing and follow through on the project. The class simulates how a production house operates. Prerequisite: 465 or 481 or consent of instructor.

483-3 Advanced Radio-Television Writing. Exercises in writing broadcast manuscripts including documentary, drama, and children's programming. Prerequisite: Successful completion of language skills exam, senior standing and 340, 310 or 383 and consent of instructor.

489-2 to 6 Radio Television Workshop. Advanced work in various areas of radio-television and interrelated disciplines. Prerequisite: consent of instructor.

491-3 Independent Study. Area of study to be determined by student in consultation with graduate faculty. No more than two students may work on same project. Students must complete an application form which is available from the departmental adviser. Prerequisite: senior standing and consent of instructor.

500-3 Introduction to Telecommunications. Salient issues and prevailing trends in telecommunications. Introduction to telecommunications research methods with special attention given to the preparation of thesis proposals. Required for all graduate students in telecommunications. Prerequisite: restricted to M.A. telecommunications majors or by consent of the instructor.

510-3 Telecommunications Programming. Designed to train advanced students in programming strategies for telecommunications. Includes analysis of audience needs. Analysis and interpretation of program ratings. Analysis of program formats and programming strategies.

530-3 International Telecommunications. Thorough examination of telecommunications systems in other countries. Explores telecommunications across national borders and the role of telecommunications in developing countries.

532-3 Telecommunications Research. Techniques of social science research applied to the study of telecommunications. Emphasizes the conceptualization, design and implementation of various approaches including survey, experimental design and content analysis. Required of all graduate students in telecommunications. Pre-

requisite: restricted to M.A. telecommunications majors or by consent of instructor.

570-3 Aesthetics of Telecommunications. Development of critical criteria and application of methods of analysis by which the content, aesthetic elements, and forms of television programs are objectively evaluated. Extensive reading in critical literature and several critical analyses are required.

571-3 Telecommunications Policy. Study of the history and development of telecommunications policy. Broad issues in policy are discussed, including policy relating to telecommunications management and international telecommunications. Legal research techniques are emphasized. Extensive readings required. Required for all graduate students in telecommunication. Prerequisite: restricted to M.A. telecommunications majors or by consent of the instructor.

573-3 Telecommunications Management. Theoretical perspectives in telecommunications management. Includes examination of the organization and management of commercial and non-commercial telecommunications organizations with an emphasis on leadership theories and techniques. Required for all graduate students in telecommunications. Prerequisite: restricted to M.A. telecommunications majors or by consent of the instructor.

580-3 Telecommunications Technology. Ongoing examination of new and emerging communication technologies, analyses of their perceived

uses and potential. Creative or theoretical research required.

589-3 Telecommunications and Society. The study of effects of telecommunications on various segments of society. Group and individual investigation into research methodology and literature on effects.

591-3 Individual Study in Telecommunications. Supervised research or independent investigative projects. Area of study should be determined by student in consultation with adviser and committee.

595-3 Advanced Seminar: Telecommunications. Advanced research and discussion of specialized issues in telecommunications.

598-1 to 3 Research Report. One to three hours required of all non-thesis students writing a research paper and engaging in a companion creative project. Graded *S/U* only.

599-1 to 6 Thesis. Thesis requirements may be satisfied only by a traditional written thesis. Maximum of six hours may be counted toward degree requirements.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Theater

E-mail: blacks@siu.edu

COLLEGE OF LIBERAL ARTS

Barnes-McLain, Noreen, Associate Professor and *Director of Graduate Studies*, Ph.D., Tufts University, 1986; 1995. Criticism, theater history and theory.

Blackstone, Sarah J., Associate Professor and *Chair*, Ph.D., Northwestern University, 1983; 1991. Criticism, theater history and theory.

Kincaid, William, Assistant Professor, M.F.A., Southern Illinois University, 1988, 1997. Acting, voice, and directing.

Merrill-Fink, Lori, Assistant Professor, M.F.A., University of Arizona, Tucson, 1988; 1988. Acting, voice, and movement.

Moe, Christian H., Professor, Emeritus, Ph.D., Cornell University, 1958; 1958.

Naversen, Ronald, Assistant Professor, Ph.D., Southern Illinois University at Carbondale, 1989; 1989. Scenic design.

Rush, David, Associate Professor, Ph.D., University of Illinois, 1973; 1996. Playwriting, criticism, theory.

Stewart-Harrison, Eelin, Professor, *Emerita*, Ph.D., Louisiana State University, 1968; 1961.

Varns, Mark, Assistant Professor, M.F.A., University of Missouri-Kansas City, 1990; 1996. Technical direction, lighting design.

The Department of Theater blends scholarship and practice into an academically based theater experience preparing the student for a career in professional, educational, or community theater. The extensive production schedule in two theaters—a proscenium house, the McLeod Theater, seating about 500 and a flexible space, the Laboratory Theater, seating about 100—provides training in all aspects of the theater augmented by courses in acting, voice, movement, directing, playwriting, production, design, and technical theater. Courses in theater history, dramatic theory and criticism, aesthetics, and specialized courses, e.g., children's theater and theater management, complement the program. Students are required to widen their horizons by appropriate courses outside the department. Seminars in theater and drama enhance the total experience.

The Department of Theater offers a graduate program of study leading to a Master of Fine Arts degree in theater. Doctoral study in theater is sponsored by

the Department of Speech Communication. Interested students should consult the description of the program under speech communication.

Admissions

One set of forms must be submitted by the applicant to the Department of Theater. All forms should be requested from the director of graduate studies in theater. Applicants for graduate studies in theater must satisfy the minimum requirements of the Graduate School before being admitted to the department, which requires the submission of a personal and professional data form together with 3 letters of recommendation from former teachers or supervisors.

A non-refundable application fee of \$20.00 must be submitted with the application. Attach your check or money order, payable to Southern Illinois University, to the top of the application form. Do not send cash. Only checks or money orders payable to United States banks will be accepted.

Although an undergraduate major in theater is not essential for admission to a graduate degree program in theater, the director of graduate studies may require that certain course deficiencies in undergraduate subject areas be remedied. These requirements are stated in writing on the admissions approval form.

There are additional requirements established by each of the three areas of study in the M.F.A. program. Applicants in the directing area are interviewed and required to submit materials that are representative of their previous theater work and/or indicate an aptitude for stage direction (examples would include promptbooks, programs, reviews, photos, video tapes or casebooks from previous directing efforts. Alternatively, a detailed production plan for a play selected by the faculty may be required). Applicants in the production design/technical areas are required to submit portfolio samples of their work. Applicants in the playwriting area must submit examples of their writings. More detailed information about these requirements is obtainable from: Director of Graduate Studies, Department of Theater, Southern Illinois University at Carbondale, Carbondale, IL 62901-6608, 618-453-5741.

Financial Assistance

There are several kinds of financial assistance available to graduate students in the Department of Theater. First, there are graduate fellowships awarded on the basis of superior scholarship. Second, special fellowships are offered annually to students who show promise of success in graduate studies although their academic records have been only average due to economic disadvantages. The fellowships have no service requirements. Third, graduate assistantships (over \$5,000 per academic year) are available to students who are employed in various academic support positions, such as teaching, researching, and production. All fellowships and assistantships include a waiver of tuition (both in-state and out-of-state). Applications for financial assistance may be obtained by writing to the director of graduate studies.

The Master of Fine Arts Degree Program

The Master of Fine Arts degree program in theater emphasizes practical expertise in one of the following areas: directing, production design (separate emphases in scenic, lighting, costume design, and technical direction), and playwriting. Coordination of cognate areas within the University structure offers the possibility of study in such interdisciplinary fields as dramatic literature, American theater, and music theater, among others. In most instances, a minimum three year residency is required of all M.F.A. students.

All M.F.A. students must complete a minimum of 60 semester hours of course work, including the M.F.A. degree core requirements:

THEA 400 — 4 hours

THEA 500, 501 — 5 hours

THEA 506 — 3 hours

Basic theater course in area — 3 hours

Total M.F.A. core — 15 hours

Besides the core requirements, the student will propose and successfully complete a project to qualify for further study in the chosen area. This project will be developed in concert with the student's committee consisting of three faculty members.

In addition, each of the three areas of study has specific area and elective requirements which are as follows.

DIRECTING

M.F.A. core (including THEA 402b) — 15 hours

Area requirements — 32

THEA 401-2 hours

THEA 403-3 hours

THEA 417-3 hours

THEA 454-3 hours

THEA 502-9 hours

THEA 511-3 hours

THEA 526a-3 hours

THEA 599-6 hours

Electives (by advisement) — 13 hours

Total: 60 hours

PRODUCTION DESIGN

M.F.A. core (including THEA 407) — 15 hours

Area requirements — 32

THEA 414, 418-6 hours

THEA 510-8 hours

Area theater electives-6 hours

THEA 511 or 522-6 hours

THEA 599-6 hours

Electives (by advisement) — 13 hours

Total: 60 hours

PLAYWRITING

M.F.A. core (including THEA 411a) — 15 hours

Area requirements — 35

THEA 402a or b, or 502-3 hours

THEA 411b, 511, 526b-9 hours

THEA 504, 505-6 hours

THEA 511 or 522-3 hours

THEA 454 or 550-2 to 3 hours

THEA 530-6 to 5 hours

THEA 599-6 hours

Electives (by advisement) — 10 hours

Total: 60 hours

Thesis requirements vary for each area of study; however, they include a research component as well as a description and evaluation of the student's creative project. In concert with the student's committee, the candidate may choose to separate the two, submitting an approved research paper during the first academic year and a creative thesis after completion of the M.F.A. final project.

The Department of Theater requires an oral examination, conducted by the student's thesis or dissertation committee, for each M.F.A. and Ph.D. degree

candidate. The examination covers the thesis or dissertation, and may include questions designed to ascertain the student's general competence in theater.

Courses (THEA)

400-1 to 6 (1 to 2 per semester) Production. Practicum for support of major department productions in all areas. Roles in department productions may fulfill requirement.

401-2 Stage Management. Study of the theories and skills required to successfully stage manage a theater production. Prerequisite: 217, 218a and consent of instructor.

402-6 (3, 3) Play Directing. (a) Introduction to directing. The history of the director; the evolution of the director into a position of predominance in modern theater hierarchy. The function of the director; and examination of theoretical viewpoint. Textual analysis; establishing the groundwork for the director's approach to production. Prerequisite: junior standing; 217 and 311a; or consent of instructor. (b) The principles of play direction including play selection, analysis and patterning of auditory and visual elements of production. Directing of a one-act play. Prerequisite: consent of instructor.

403A-3 Advanced Movement for the Actor. Advanced studies in stage movement with special attention to period styles. Prerequisite: 303a, 317a, b

403B-3 Advanced Voice for the Actor. Advanced studies in voice with special attention to stage dialects. Prerequisite: 303b, 317a.

404-3 Theater Management. Discussion of legal and financial aspects concerning the professional and community theaters of the United States. Consideration of and practice in managerial activities of an educational theater including administration, purchasing, accounting practices, direct sales, publicity, promotion and public relations.

406-3 Properties and Crafts for the Stage. Studio work in traditional and non-traditional crafts for theatrical events, including life masks, upholstery, puppetry, stage furniture and special effects. Prerequisite: 218a or consent of instructor.

407-3 Scene Design. Technical and artistic aspects of scene design. Theory and practice. Supplies at least \$25 per semester. Prerequisite: 218a, 309, 409, or consent of instructor.

408-3 Model Making. Craft of scenic model making for the stage and other dramatic media. Prerequisite: 218a or consent of instructor.

409A-3 Scene Painting. Studio work in lining, paneling, tromp l'oeil ornament and drapery. Prerequisite: 218a or consent of instructor.

409B-3 Advanced Scene Painting. Advanced studio work in scene painting, including dye painting, transparencies, color mixing and mural work. Prerequisite: 409a or consent of instructor.

410-9 Children's Theater. Theory and practice in performing theater for children. Class activities include lectures on various aspects of production as well as producing a touring children's play for local area schools. Prerequisite: audition or interview.

411A-3 Playwriting — The Short Play. Principles of dramatic structure as they apply to the writing of a short play. Through class discussion, analysis of short plays, and the writing of specific

projects and exercises, students will write at least two drafts of a 20-30 minute complete play. Individual plays may be considered for production in the theater's program for new plays. Prerequisite: one course in dramatic literature for non-majors and graduates; 311a for majors, or consent of instructor.

411B-3 Playwriting — The Full-Length Play. Principles of dramatic literature as they apply to the writing of a full-length (90-120 minute) play. Typical well-made patterns are studied, along with experimental forms and variations. Some discussion of marketing plays is included. Prerequisite: 411a or its equivalent or consent of instructor.

414-3 Costume Design. History of Western Costume from Greek to Renaissance and its adaptation to stage use. Theory and practical application of design and color. Supplies at least \$25. Prerequisite: 218c or graduate standing.

417-3 to 6 (3,3) Advanced Acting. Utilization of the actor's process in the performance of various theories and styles of acting. May be repeated once for credit. Prerequisite: 317a.

418-3 Introduction to Lighting Design. Investigation of stage lighting design, theory and professional practice. Special attention to color theory and its application to stage lighting. Four hours lecture/laboratory. Prerequisite: 218b, 309, graduate standing, or consent of instructor.

419-3 Advanced Stagecraft. Advanced study of principles and procedures of scenic construction and stage rigging. Includes scene shop organization, materials, and specialized stage equipment; preparation for professional technical direction. Lecture and laboratory to be arranged. Prerequisite: 218a,b, 309, 407; or graduate standing.

450-3 to 9 Topical Seminar. An intense examination and application of selected areas of interest. Topics will vary and may include such areas as stage management, audition and interview, current political theater. Prerequisite: consent of instructor.

454-3 American Theater. The development of American theater from colonial times to the present. Includes a study of the American musical theater from preminstrels through contemporary music-drama.

500-2 Introduction to Research Methods. An introduction to the principles and methods of the various types of research in theater. The student may elect to focus on the research demands of a selected area of interest within the degree program pursued. One objective is the formulation of a research problem and a prospectus. Prerequisite: graduate standing.

501-3 Contemporary Developments. A survey of the significant developments in theater and related arts from the beginning of the 19th century to the present through the study of documentary material, critical works, and selected plays. Individual reports, guest lecturers and lectures provide focus on selected areas. Required reading encompasses a broad spectrum of subjects. Prerequisite: graduate standing.

502-3 to 9 Advanced Directing. Emphasis on practical directing problems and concerns of individual students through research, rehearsal and performance. Includes survey of directing theories and practices with laboratory application of directing techniques. Prerequisite: consent of instructor.

504-3 The Comic Theater. A study of comedic drama, theory, and criticism as applied to types of comedy with a focus on interpretation for the theater practitioner. Individual reports are assigned.

505-3 The Tragic Theater. An examination of tragic drama and criticism as related to the societies which produced such drama. Individual reports are assigned.

506-3 Spectacle: The Vision of Theater. Discussion and evaluation of the role and responsibility of theater artists to promote audience understanding of the visual through application of design and directing principles. Exploration and examination of the style and meaning of communication between members of a production team in today's theatre through group projects.

507-3 Advanced Scene Design. Advanced consideration of principles of scene design. Scenography as a dynamic force in theater and related media world wide. Supplies at least \$25 per semester. Prerequisite: 407 or consent of instructor.

510-2 to 8 Production Design Seminar. Exploratory workshop experience in rendering techniques, creative problem solving, design aesthetics, and production philosophies. To be taken by graduate production design students each semester in residence with exceptions by consent of instructor.

511-3 to 6 Playwriting Workshop. A practical laboratory course in which playwriting students will have one or more original plays presented in staged readings or modified productions. Plays will be directed by graduate acting/directing students and designed by graduate design students also enrolled in course. The workshop gathers a performance group for the presentation of the new plays. Student playwrights are expected to constantly improved their work before and after presentation, to attend rehearsals, to work closely with directors and actors. Plays will be evaluated in critique sessions. Prerequisite: graduate standing and consent of instructor.

514-3 Advanced Costume Design. Advanced consideration of principles of costume design. Theory and history of costumes from Renaissance through early 20th century. Practical applications of methods and procedures in designing costumes. Supplies at least \$25 per semester. Prerequisite: 414 or consent of instructor.

518-3 Advanced Lighting Design. Expansion and refinement of the visual imagination of the lighting designer. Investigation of theatrical applications of lighting for dance, opera, performing arts, architecture, advertising and landscaping. Prerequisite: 218a,b, 309 and 418.

522-1 to 12 SIU Summer Theater. Practical experience in summer stock play production. Performance or technical work in SIU Summer Theater only. Maximum of six hours per summer. Prerequisite: audition and consent of instructor.

526-3 to 12 (3 per topic) Seminar in Theater Arts. Special topics of interest to advanced students. Subject is determined by department and instructor. Areas: (a) Performance/production. (b) Theory, criticism, and playwriting. Seminar in same area may be taken twice. Prerequisite: consent of instructor.

530-1 to 12 Independent Study. Independent research on selected problems. A maximum of three credit hours may be taken for a single project. Prerequisite: consent of instructor.

550-2 to 6 (2 per topic) Topical Seminar. In-depth studies of topics of special interest to advanced students concerning individual or groups of playwrights, directors, designers, and their techniques and theories. Topic is determined in advance. Prerequisite: consent of instructor.

560-1 to 21 Professional Work Experience. Credit may be granted for professional work experience prior to acceptance into the program. Prerequisite: approval by departmental graduate committee required. Graded *S/U* only.

561-1 to 12 Theater Internship. After completion of the M.F.A. core curriculum and basic courses in student's specialization, credit may be granted for internship at professional theaters, training programs, or studios. Prerequisite: prior approval of departmental graduate committee required. Graded *S/U* only.

599-1 to 6 Thesis. Minimum of three hours to be counted toward a Master's degree.

600-1 to 36 (1 to 16 per semester) Dissertation. Minimum of 24 hours to be earned for the Doctor of Philosophy degree.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Workforce Education and Development E-mail: wed@siu.edu

COLLEGE OF EDUCATION

Anderson, Marcia, Professor, Ph.D., Southern Illinois University at Carbondale, 1975; 1970. Workforce education program administration, administrative services training, teaching methodology, curriculum development, philosophy

of vocational education, women in administration.

Bailey, Larry J., Professor, Ed.D., University of Illinois, 1968; 1969. Career education, school-to-work transitions, research methods, measurement and evaluation.

Baker, Clora Mae, Associate Professor, Ph.D., Ohio State University, 1989; 1989. Teaching methodology, curriculum & instruction, professional development, office administration, qualitative research.

Bortz, Richard F., Professor, Ph.D., University of Minnesota, 1967; 1977. Instructional systems design, occupational training and curriculum development, organizational and occupational analysis, competency-based education and training, individualized instruction, faculty development and evaluation.

Buila, Theodore, Associate Professor, Ph.D., Cornell University, Ithaca, NY, 1968; 1968. Education and training in developing countries, curriculum strategies in vocational education, non-formal education and training, agricultural development, foundation and policy issues in vocational-technical education.

Carter, Rose Mary, Assistant Professor, Ph.D., Purdue University, 1970; 1970. Special needs learners, curriculum development, supervision, methods of instruction, experience based career education, at-risk populations, clientele characteristics.

Gooch, Bill G., Professor, *Emeritus*, Ed.D., University of Tennessee, 1973; 1973.

Huck, John F., Associate Professor, Ed.D., University of Illinois 1973; 1970. Instructional methods and development, computer based training, industrial training and adult education.

Jenkins, James, Professor, *Emeritus*, Ed.D., Pennsylvania State University, 1955; 1956.

Keenan, Dorothy, Professor, *Emerita*, Ed.D., University of Illinois, 1962; 1961.

Kidd, Laura K., Assistant Professor, Ph.D., Iowa State University, 1994; 1996. Western and non-western costume history, apparel design and fashion illustration, historical patent research.

Lentz, Elizabeth, Assistant Professor, Ph.D., The University of Missouri, 1997; 1997. Textiles, 19th/20th century U.S. textile industry, textile and apparel workers, apparel design, industry technology.

Putnam, Alvin R., Associate Professor and *Chair*, Ed.D., Oklahoma State University, 1978; 1997. Leadership, human resource development, international education, curriculum and evaluation.

Ramp, Wayne S., Professor, *Emeritus*, Ed.D., Bradley University, 1956; 1957.

Reneau, Fred W., Professor, Ed.D., Virginia Polytechnic Institute and State University, 1979; 1979. Multimedia development, task analysis, research, adult education, curriculum development, program and student assessment, test development.

Ridley, Samantha Sue, Assistant Professor, *Emerita*, M.S., Southern Illinois University at Carbondale, 1959; 1964.

Rosenbarger, Maxine, Associate Professor, *Emerita*, Ph.D., Southern Illinois University at Carbondale, 1970; 1973.

St. John, Wayne L., Associate Professor, *Emeritus*, Ph.D., University of Oregon, 1954; 1975.

Stadt, Ronald W., Professor, *Emeritus*, Ed.D., University of Illinois, 1962; 1967.

Stitt, Thomas R., Professor, Ph.D., Ohio State University, 1967; 1967. Curriculum specialist, agricultural education, training and development, microcomputers, computer assisted instruction and methods.

Sullivan, James A., Professor, Ed.D., West Virginia University, 1967; 1968. Workforce development, performance assessment, certification testing, cooperative education, hydraulics and pneumatics training and testing.

Washburn, John S., Professor, Ed.D., University of Illinois, 1977; 1986. Employment and training, workforce development, research, curriculum development, personnel development, and programs for special populations.

Wood, Eugene S., Professor, *Emeritus*, Ed.D., University of Missouri, 1958; 1949.

Workman, Jane, Professor, Ph.D., Purdue University, 1982; 1989. Dress and social behavior, apparel technology and design, consumer behavior.

The Department of Workforce Education and Development offers programs of study leading to the Master of Science in Education and Doctor of Philosophy degrees. Information about either program may be obtained by writing: Coordinator of Graduate Studies, Department of Workforce Education and Development, Southern Illinois University at Carbondale, Carbondale, IL 62901-4605.

A non-refundable application fee of \$20.00 must be submitted with the application. Attach your check or money order, payable to Southern Illinois University, to the top of the application form. Do not send cash. Only checks or money orders payable to United States banks will be accepted.

Master of Science in Education Degree

The master's degree with a major in workforce education and development is designed to accommodate a broad range of individuals preparing for teaching and non-teaching roles in education, business, industry, government, and other fields. The major consists of a minimum of 30 semester hours of course work organized into 3 components for students with background in education or training.

Professional Core Requirements. This consists of 4 courses: WED 561, 566, 580, and EPSY 402. Students are required to take a minimum of 9 hours (3 courses) from the core.

Specialty Area Courses. This consists of 12–18 semester hours of course work relevant to a student's career goals. Technical courses, professional courses, individualized study, and internships may be included. Courses may be taken within the department or in other units of the college or University.

Research Paper or Thesis. In accordance with Graduate School requirements, a research paper or thesis must be written showing evidence of the student's knowledge of research techniques. The majority of students select the research paper option. Students enroll in 3 semester hours of WED 593 to develop the research paper. Students choosing the thesis option enroll for not more than 6 semester hours of WED 599.

The program of study is individually tailored based on the student's background, interests, and career goals. Representative programs of study include: secondary teacher of vocational or practical arts education, post-secondary technical teacher, local director of vocational education, coordinator of cooperative vocational education, industrial trainer, employment and training specialist, manager of human resource development, and extension adviser. Upon completion of all requirements, a final oral or written examination covering the course work and research paper or thesis is conducted by the student's advisory committee.

Doctor of Philosophy Degree in Education

Advanced studies leading to the Doctor of Philosophy degree in education with a concentration in workforce education and development is offered through the Department of Workforce Education and Development. The concentration is a broad, general leadership, and professional development degree that serves professionals having knowledge, experience, and interests in the fields of: (a) vocational and technical education, (b) career education, (c) employment and training, or related fields. Even though many students who enter the program have a specific service area identity (e.g., agriculture education, business education, health occupations education, home economics education, industrial education), the degree is not awarded in a service area specialty.

Within the workforce education and development concentration a student may select one of 3 areas of specialization: (a) management, (b) professional development, or (c) research. The specialty area should be chosen based on the student's background, interests, and future career goals.

Persons seeking admission to the program must meet all requirements for admission established by (a) the Graduate School of the University, (b) the College of Education, and (c) the Department of Workforce Education and Development. It is required that applicants possess a background of academic and professional experience which will provide a basis for advanced study and research. More specifically, the program is designed for individuals with a background and experience in teaching, program administration, or training and development. Admission to the concentration is determined by a screening committee composed of a minimum of 3 members of the graduate faculty of the Department of Workforce Education and Development.

The program of study consists of 64 hours beyond the master's degree and includes an 8-hour professional seminar sequence in the College of Education, a 15-hour departmental core, 17 hours of supportive studies which may include an internship, research tool competence, and 24 hours of dissertation credit.

Courses (WED)

401-3 Authoring Computer Based Instruction in Workforce Education. Develops the basic practical skills and theoretical knowledge required to create computer based instruction for workforce education. Planning and developing CBT lessons are included.

408-3 Integrating and Managing Technology Applications for Workforce Education and Training. Design of workforce training applications integrating professional advanced features of computer software, communication technologies, and multimedia features, including management of educational LAN systems. Prerequisite: 306.

410-3 Issues in Business Training/Education. Study of current issues in business training and education related to history, current status and trends. Organization of instruction, instructional settings, relation to general education, integration and impact of technology, curriculum development/review and evaluation of business training/education impact in the workplace.

412-3 Office Systems Planning and Implementation. (Same as Information Systems Technologies 412) Planning for office systems development through investigation of procedures and systems used in various types of offices. Study of work flow, information processing, employee and group interactions, office information systems from end user perspective. Study of development and implementation processes and strategies detailed through field-tested projects. Students enrolled for graduate credit will develop an end-user office support system as a result of the project. Prerequisite: Information Systems Technologies 341 or equivalent.

414-6 (3,3) Instructional Methods for Business Education. Specific methods, techniques and materials to deliver instruction in business education: (a) accounting, basic business (business and technology concepts, economics, consumer education, product-oriented marketing, small business management), and workplace skills; (b) business computer systems, information processing and keyboarding. This course requires an additional laboratory meeting time. Prerequisite: 310, 462b or Education 315.

417-3 Administrative Office Communications. Application of communication theory, human relations concepts, research methods and information technology to professional application of automated information systems. Projects include oral and written reports, systems-related documents (reports, proposals and procedures) and systems documentation for users; emphasis on human factors of communication in a technological environment. Prerequisite: 302 or equivalent.

418-3 Training and Development in Administrative Services. Theories of learning and instructional development to the education/training of employees in office systems/administrative services. Analysis of office and administrative services occupations, instructional design, instructional and presentation strategies, training evaluation, use of instructional technology, and implementation and evaluation of training in an or-

ganizational environment. Prerequisite: Office Systems Specialties 412 or equivalent.

428-3 Home Economics for Elementary Teachers. Identification and development of home economics related experiences appropriate for various levels of elementary curriculum. Interpretation of current vocational education legislation and trends affecting elementary programs.

431-3 Demonstration and Laboratory Techniques in Home Economics Education. Practice in planning and carrying out instructional demonstrations in home economics for youth and adults. Use of audiovisual aids and hand-outs. Procedures for laboratory and guided practice to develop psychomotor skills. Attention given to TV presentations. \$5 to \$8 lab fee required. Prerequisite: 320.

439-3 Historic Clothing: Western Cultures. Development of clothing in western civilization to the present time. Consideration of social, economic, aesthetic factors and technical innovations influencing clothing.

440-3 Experimental Apparel Design. Development of apparel to meet aesthetic, structural and functional needs; problem solving for exceptional proportions, rehabilitation, activity, performing arts, new technology, materials and environment. Prerequisite: 340, 342, 344, and 348.

441-3 Personnel Issues in Fashion Retailing. Identification and examination of personnel issues and the job search process in the fashion retail workplace. Prerequisite: 334 and junior standing.

442-3 Textiles and Apparel Economics. Emphasizes the issues and importance of the role the U.S. softgoods industry plays in the global economy.

444-3 Mass-Market Apparel Design. Design of a line to specifications; drafting; toiles, mass-production costs; work flow; use of industrial equipment. Field trips. Prerequisite: 340, 342, 344 and 348.

445-4 Textile Product Testing. Hands-on experience with textile testing methods and tools/equipment used by retailers and manufacturers to maintain quality and predict performance. Standards, specifications, test methods, testing terminology, interpretation of test results and recording of test results. Prerequisite: 345.

446-3 Professional Practices in Fashion Design. Business principles of apparel design, including systems, forms and logistics of money and materials. Functions and responsibilities of the fashion designer. Career opportunities in the fashion industry. Prerequisite: 340, 342, 344, 348.

447-3 Computer Aided Apparel Design. Hands-on experience in computer patternmaking and grading. Prerequisite: 340.

448-3 Custom Tailoring. Individualizing, fitting and contouring male or female garments for customers from commercial pattern or from original pattern. Organization of work and time. Prerequisite: 348.

449-3 Ethnic Dress. The study of ethnic dress in non-western cultures, with attention to aesthetics, symbolism and uses of ethnic dress. Cultures studied may vary with each offering.

459-3 History of Western Costume, 1860 to Present. Evolution of western costume from 1860 through the present time. Emphasis on the inter-relationship between costume, and social, political, economic and technological changes.

460-3 Occupational Analysis and Curriculum Development. Systems approach to curriculum development. Includes analyzing occupations, specifying objectives and developing curriculum.

462-3 Instructional Methods and Materials. Instructional methods in occupational training program. Prerequisite: 460.

463-3 Assessment of Learner Performance. Development and use of evaluation instruments to assess student performance in training classrooms and laboratories. Criterion- and norm-referenced objectives, applications of taxonomies in development of written tests, performance tests and attitude measures. Prerequisite: 460.

464-3 Special Needs Learners and Work Education. Theoretical and applied concepts in teaching special needs learners. Affective aspects of learning are emphasized. Curricula and teaching materials are examined and prepared. Field trips.

466-3 Foundations of Work Education. Examination of the historical, social, economic and psychological foundations of workforce education. Nature and role of education and training in preparing people for the world of work.

468-3 Education/Labor Force Linkages. Attention given to the following areas: overcoming barriers to the linkage process; developing effective lines of communication; resource sharing; conducting joint problem solving with other agencies and individuals within the community; and jointly developing and providing programs and services.

469-3 Training Systems Management. Insight and understanding of administration and management of organizational training. Principles and techniques of managing training organizations. Process of planning, organizing, programming, staffing, budgeting and evaluating a training organization.

472-3 Organizing Cooperative Education. Introduction to cooperative education including history, rational, legislation, goals and objectives. Programming, public relations and evaluation of cooperative education. Introduction of student selection and management of cooperative education programs. Fulfills three semester hours of six required for State of Illinois certification.

473-3 Coordinating Cooperative Education. Competencies required for coordination of cooperative education programs. Selection and maintenance of training stations, student placement, related instruction and program management. Fulfills the remaining three semester hours required for State of Illinois certification. Prerequisite: 472.

474-3 Individualized Training. Study and development of theory, characteristics, appropriateness and evaluation techniques of individualized training packages. Review of current state of individualized instruction in work education. Prerequisite: 460.

484-3 Adult Training in Organizations, Business and Industry. A study of adult and workforce education as offered in a variety of educational settings. Major topics include organization,

funding, instructional systems, adult characteristics and evaluation. Prerequisite: consent of instructor.

490-1 to 4 Readings. Supervised reading for qualified students. Includes the following areas: (a) Administrative services training, (b) Business education, (c) Education, training and development, (d) Home economics, (e) Vocational teacher development, or (f) Clothing and textiles. Prerequisite: consent of instructor.

491-1 to 5 Advanced Occupational Skills. Modern occupational practice in selected fields for experienced professionals seeking advanced techniques. Prerequisite: consent of instructor.

494-1 to 4 Workshop. Current work education issues for teachers, supervisors and administrators. Emphasis of each workshop will be identified in each workshop announcements. (a) Administrative services training, (b) Business education, (c) Education, training and development, (d) home economics, (e) Vocational teacher development, or (f) Clothing and textiles.

497-1 to 6 Practicum. Applications of work education skills and knowledge. Cooperative arrangements with corporations and professional agencies to study under specialists. Prerequisite: 20 semester hours in specialty.

498-1 to 5 Special Problems. Investigation of work education problems in (a) Administrative services training, (b) Business education, (c) Education, training and development, (d) Home economics, (e) Vocational teacher development, or (f) Clothing and textiles. Prerequisite: consent of instructor.

501-3 Multimedia Production Technologies in Workforce Education. The application of multimedia technologies into workforce education and development delivery systems. Course participants will design, develop, edit and deliver individual training multimedia products. Prerequisite: consent of instructor.

502-3 Multimedia Delivery of Workforce Education by Distance Learning. The delivery of multimedia technologies to workforce education and development training settings. Course participants will be involved as members of a team in the design and delivery of the multimedia technologies used in training the workforce. Prerequisite: 501 and consent of instructor.

510-3 Improvement of Instruction in Business Education. Designed for the experienced teacher who is interested in the study of curriculum and teaching problems in business education. Deals with teaching procedures, instructional materials, tests and evaluation, and organizations of teaching units and projects. Prerequisite: 310 or 410 or consent of instruction; teaching experience in business.

518-3 Home Economics Programs in the Schools. Curriculum development in vocational home economics is the focus. Units in family life education, consumer-homemaking, and occupational programs are developed by students for use in their professional responsibilities. Offered alternate years.

520-3 Trends and Issues in Home Economics Education. Analysis and appraisal of current trends, problems and issues in the field. Attention is given to implications for teachers.

521-3 Advanced Methods of Teaching Home Economics. Recent trends in methodology based on research and experimentation. Attention given to methods which promote cognitive, affective and psychomotor learnings. Preparation of materials for special interests of students. Offered alternate years.

538-2 College Teaching of Clothing and Textiles. Central ideas, objectives and current practices. For preparation of college teachers.

547-3 Foundations of Fashion. Anthropological approaches to fashion and socioeconomic and psychological forces as determinants of fashion in modern times. Prerequisite: 347 or consent of instructor.

561-3 Research Methods. Basic research methods and techniques in the design, investigation and reporting of research studies relating to education for work.

562-3 Legislation and Organization. Historical and contemporary thought and practice regarding federal and state legislation related to education for work. Legislators are used as resource persons. Required for supervisors.

564-3 Program Evaluation for Work Education. Evaluation systems and activities for evaluating national, state, and local work education programs. Systems include programmatic accreditation and state agency evaluations. Activities include personnel, facilities, access and equity, community resources and community needs evaluations.

566-3 Administration and Supervision. Nature, function, and techniques of administration and supervision of education for work programs at all levels.

568-3 Facilities Planning. Principles and practices of planning classrooms and laboratories for various education for work programs. How to work with administrators, staff, and paid professionals to assure judicious location and design of facilities.

572-3 Trends and Issues in Cooperative Vocational Education. Theoretical basis of, and trends and issues in cooperative vocational education (CVE). Historical research into CVE, current directions, and related literature. Investigations into development, implementation and evaluation of CVE programs. Concentration on administration and supervision of major components. Special emphasis on developing a CVE program. Prerequisite: 472.

574-3 Occupational Information. The role of instructional and supervisory personnel in the total occupational information system. Kindergarten to adult.

576-6 (3,3) Policy Implementation and Supervision. Planning, implementing, and controlling local education agency components of state and federal occupational programs. (a) Objective program planning, leadership, communications. (b) Management information systems, financial decisions, staffing patterns.

578-3 Programs in Diverse Settings. Similarities and dissimilarities of education for work programs in public/private, civilian/military, union/management, and other settings. Expectation of instructional and supervisory personnel. Professional contributions of post-secondary teachers.

580-3 Characteristics of Clientele. Familiarization with the characteristics and programming needs of clientele served by various education for work programs.

584-3 Curriculum Foundations for Work Education. Acquaints students with different factors that influence, direct, and shape curriculum as it pertains to the work-oriented aspects of school and society. Topics include law and the curriculum, philosophies and organizational models, differing approaches by grade level and setting, and the development of work-related curriculum.

586-3 Adult Vocational Programs. Philosophy of adult education; current organizational patterns of adult programs; unit planning, methods, techniques and resources.

588-3 Performance-Based Professional Development. Key concepts, terminology, advantages, limitations, and techniques for using performance-based teacher education. Major performance-based teacher education models. Procedures for implementing pre-service and in-service programs. Published learning packages are used to develop skill in teaching in and managing performance-based teacher education programs. Prerequisite: admission to the Ph.D. program.

590-1 to 9 Readings. Supervised readings in selected advanced subjects. Prerequisite: consent of instructor.

591-1 to 9 New Developments. Recent developments and trends in various aspects of education for work. Instruction provided by recognized authorities.

592-3 Current Issues and Research. Examination of broad topics, issues, and research not covered in other regularly scheduled courses. Emphasis will be on recent and present issues which are in the process of evolving. Content will be selected from three primary professional fields: (a) Vocational/technical education, (b) Employment and training, and (c) Career education. Required of all Ph.D. students.

593-1 to 6 Individual Research. The selection and investigation of a research topic culminating in a paper satisfying the research requirement for a Master of Science in Education degree. Prerequisite: consent of instructor.

594-3 Advanced Research Methods. Development of research competencies and preparation of proposal for thesis or dissertation research. Familiarity with research in various foundation areas of education for work.

595-1 to 16 Professional Internship. Supervised professional experience in appropriate educational settings. May be done on- or off-campus.

598-1 to 6 Special Investigations. Selection and investigation of a problem: use of relevant sources and techniques; collection and analysis, evaluation, interpretation of data, and the writing of a report of the investigation for students whose particular needs are not met by existing classes. Prerequisite: consent of instructor.

599-1 to 6 Thesis.

600-1 to 36 (1 to 12 per semester) Dissertation.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or

research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before

being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Zoology

E-mail: zoology@zoology.siu.edu

COLLEGE OF SCIENCE

Anthoney, Terence R., Associate Professor, M.D., University of Chicago, 1968; and Ph.D., University of Chicago, 1975; 1971. Ethology, neurosciences.

Beatty, Joseph A., Associate Professor, Ph.D., Harvard University, 1969; 1965. Invertebrates: arachnology.

Blackwelder, Richard E., Professor, *Emeritus*, Ph.D., Stanford University, 1934; 1958.

Brandon, Ronald A., Professor, *Emeritus*, Ph.D., University of Illinois, 1962; 1963.

Breen, Thomas R., Assistant Professor, Ph.D., University of North Carolina-Chapel Hill, 1985; 1993. Developmental genetics.

Burr, Brooks M., Professor, Ph.D., University of Illinois, 1977; 1977. Ichthyology.

Drickamer, Lee C., Professor, Ph.D., Michigan State University, 1970; 1987. Animal behavior.

Dyer, William G., Professor, Ph.D., Colorado State University, 1965; 1969. Parasitology: helminthology.

Englert, DuWayne C., Professor, Ph.D., Purdue University, 1964; 1963. Genetics.

Feldhamer, George A., Associate Professor, Ph.D., Oregon State University, 1977; 1984. Mammalogy, wildlife ecology.

Garolian, George, Professor, *Emeritus*, Ph.D., University of Illinois, 1956; 1956.

Gates, Robert J., Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1989; 1990. Waterfowl/wetlands ecology and management.

Halbrook, Richard S., Assistant Professor, Ph.D., Virginia Polytechnic Institute and State University, 1990; 1993. Wildlife toxicology.

Heidinger, Roy C., Professor, Ph.D., Southern Illinois University at Carbondale, 1970; 1970. Ecology of fishes.

King, David G., Associate Professor, Ph.D., University of California, San Diego, 1975; 1977. Invertebrate neurobiology; evolution.

Kohler, Christopher C., Professor, Ph.D., Virginia Polytechnic Institute, 1980; 1981. Ecology: management, and culture of aquatic organisms.

Krajewski, Carey, Associate Professor and *Director of Graduate Studies*, Ph.D., University of Wisconsin-Madison, 1988; 1990. Molecular systematics; molecular evolution.

LeFebvre, Eugene A., Associate Professor, *Emeritus*, Ph.D., University of Minnesota, 1962; 1966.

Lewis, William M., Professor, *Emeritus*, Ph.D., Iowa State University, 1949; 1949.

Martan, Jan, Professor, *Emeritus*, Ph.D., University of Oregon, 1963; 1964.

McPherson, John E., Jr., Professor, Ph.D., Michigan State University, 1968; 1969. Entomology: insect ecology.

Muhlach, William L., Associate Professor and *Chair*, Ph.D., University of Illinois at Chicago, 1986; 1987. Developmental biology.

Newman, Jonathan A., Assistant Professor, Ph.D., State University of New York at Albany, 1990; 1994. Population and community ecology.

Sheehan, Robert J., Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1984; 1986. Environmental biology of fishes.

Shepherd, Benjamin A., Professor, Ph.D., Kansas State University, 1970; 1969. Reproduction: comparative endocrinology.

Stahl, John B., Associate Professor, Ph.D., Indiana University, 1958; 1966. Limnology.

Stains, Howard J., Professor, *Emeritus*, Ph.D., University of Kansas, 1955; 1955.

Waring, George H., Professor, Ph.D., Colorado State University, 1966; 1966. Behavioral ecology and applied ethology.

Woolf, Alan, Professor, Ph.D., Cornell University, 1972; 1979. Wildlife ecology, population dynamics, diseases.

The Department of Zoology's teaching and research programs are supported by appropriate courses, equipment, and facilities in a modern life science building. Available are an electron microscope complex, a centralized animal holding unit, a variety of sophisticated computer facilities, shops for design and construction of research equipment, Morris Library with approximately 1.8 million volumes, specialized research laboratories, and significant research collections. In proximity to the central campus are experimental ponds, wildlife enclosures, and natural laboratories. The Cooperative Fisheries and Wildlife Research laboratories, closely allied with the Department of Zoology, make important contributions to research facilities and research appointments for graduate students. The geographic location, physiographic features, and prevailing land use practices of southern Illinois and adjacent states offer unequalled opportunities for the use of natural and man-made environments in teaching and research. Of special value

are the numerous refuges and parks, a national forest, large acreages of surface-mined lands, and a variety of streams and lakes. The Department of Zoology offers the Master of Science and the Doctor of Philosophy degrees. These degrees are awarded on the basis of demonstrated scholarship and the ability to organize, conduct, and report original research. Opportunities are available for experience in teaching and research.

Admission

Applicants for all graduate degrees must fulfill the requirements of the Graduate School.

Applicants for the master's degree must possess the following academic background: 24 semester hours in courses covering the basic principles of zoology; one year of college chemistry (organic or biochemistry is also desirable); one year of college mathematics including college algebra and trigonometry (calculus and statistics are desirable). A grade point average of 2.70 ($A = 4.0$) or above. Applicants with less than 2.70 will be considered on individual merit.

Applicants for the doctoral degree must demonstrate a sound background of academic training in the biological sciences; hold a master's degree or its equivalent and have a grade point average in graduate work of 3.25 or above. Direct entry from a bachelor's degree to doctoral program is possible for students demonstrating exceptional potential.

Inquiries should be directed to the director of graduate studies in zoology. Separate applications must be made to the Graduate School and to the Department of Zoology. A completed departmental application for admission includes: departmental application form, transcript of all previous college credits, scores from the aptitude test of the Graduate Record Examination, and three letters of evaluation relative to professional and academic competence. All applicants will be notified of the action taken on their application by the director of graduate studies in zoology.

A non-refundable application fee of \$20.00 must be submitted with the application. Attach your check or money order, payable to Southern Illinois University, to the top of the application form. Do not send cash. Only checks or money orders payable to United States banks will be accepted.

Advisement

Following admission to the department, and prior to registration, a student should consult appropriate faculty (representing student's area of interest) or the director of graduate studies in zoology for assistance in registration. Each student must arrange with a faculty member to serve as an adviser no later than the end of the first semester of registration in the program. A change in the adviser will be coordinated by the director of graduate studies in zoology at the request of the student and with the approval of the current and prospective professors.

Following selection and approval of an adviser, an advisory and research committee is to be recommended to the director of graduate studies in zoology for approval by the graduate dean. For the master's degree, the committee shall consist of a minimum of 3 members, 1 of whom may be from outside the department, with the adviser serving as chair.

For the doctoral degree the advisory and research committee shall consist of 5 faculty members, one of whom must be from outside of the department. The adviser shall serve as chair.

A program of course work and research tools as required must be approved by the advisory and research committee, and made a part of the student's departmental file no later than the first week of the second semester of registration in the program.

A research plan approved by the student's advisory and research committee must be placed in the student's departmental file prior to registration for ZOOL 599 or 600 and no later than the end of the second semester of registration in the program.

While pursuing the completion of degree requirements, continuous registration is required until such time as the degree has been completed. The number of hours required per session will reflect the extent of the demand for use of time and University and department facilities and academic personnel.

Academic Credit

Audited courses may not be counted toward completion of minimum hour requirements toward the degree. No course with a grade below *C* will fulfill minimal requirements of the degree. A petition for the use of transfer credits must be approved by the student's advisory and research committee and submitted to the director of graduate studies in zoology for forwarding to the dean of the Graduate School for approval.

Master of Science Degree

A minimum of 30 hours of graduate credit (15 hours at the 500 level) is required beyond the bachelor's degree, including at least 18 hours of graded coursework, 6 hours of ZOOL 599, and one of the following tools: a foreign language either by completion of FL 488 with a grade of A or B or a score of at least 465 on the ETS proficiency exam, or two semesters of one of the following: statistics, computer science, mathematics, biochemistry or biotechnology. The entire program of study must be approved by the student's advisory committee and the department chair.

A thesis embodying results and analysis of original research and a final examination are required.

Final Examination.

1. Each candidate for a master's degree is required to pass a final examination. The examination will be oral and should be taken no later than 4 weeks before graduation.
2. The examination consists of 2 parts:
 - a. Presentation of the results of the research in a seminar.
 - b. A closed session of inquiry by the student's advisory and research committee following the seminar.

Graduation. Candidates for a master's degree must follow and fulfill all Graduate School procedures and requirements for processing one's application for graduation.

The Ph.D. Degree

Graduate study and research in the Department of Zoology is organized around three broad, overlapping areas in the life sciences: animal diversity; ecology and environmental science; and genetics, molecular and cell biology. Entering doctoral students are expected to take (or have taken) at least eight courses: three courses from each of any two areas and two courses from the third.

There is no minimal credit-hour requirement beyond the Graduate School's residency and dissertation hour requirements. A student in consultation with an adviser prepares a program of study including courses in the major, in the minor, in areas of deficiency, and to complete the research tool requirement. This program when approved by the student's advisory and research committee is filed with the director of graduate studies in zoology.

Acceptable tools include foreign language, statistics, computer science, mathematics, biochemistry, and biotechnology. Normally two tools are required; how-

ever, one tool with exceptional expertise may satisfy the requirement if approved by the student's committee (exception: English as a second language). A student may qualify in a foreign language by completion of FL 488 with a grade of *A* or *B* or a score of at least 465 on the ETS proficiency exam. To qualify in statistics, a student must have course work through multiple regression analysis, which is GUID 506 and 507. In computer science a student should take CS 200 and one of the following: 129, 215, 220, and 470. For the tool requirements in mathematics, biochemistry, and biotechnology, the student will arrange a program of 2 or 3 courses acceptable to the advisory committee. Previously acquired skills or knowledge may satisfy the tool requirement if the student passes an appropriate proficiency examination.

A 3.25 grade point average in graduate level course work must be maintained; failure to meet this requirement will result in loss of any financial support provided by the department. No course in which the grade is below *C* is acceptable for credit.

Preliminary Examinations. These examinations (oral and written) are taken after the tool requirement and a major portion (approximately 80 percent) of formal course work are completed, usually at the end of the second year of graduate study. The student with the approval of the adviser, advisory committee, and the director of graduate studies in zoology registers with the chair of the preliminary examination committee to take the examination. The written and oral examinations emphasize competence in the area of specialization and the minor.

Dissertation. The nature of the research to be used for the dissertation is established in consultation with the student's adviser, and is approved by the advisory and research committee. An approved copy of the research proposal is filed with the director of graduate studies in zoology. The student is required to register for a minimum of 24 semester hours in ZOOL 600, Dissertation Research. The dissertation is evaluated by the student's advisory and research committee, reviewed for approval by the chair and submitted to the graduate dean for final approval.

Final Examination. Upon approval of the dissertation by the student's advisory and research committee, the candidate requests the director of graduate studies in zoology to schedule a seminar and a final examination. Following the seminar, the final examination over the dissertation is conducted by the student's committee.

Graduation. Candidates for a Ph.D. degree must follow and fulfill all Graduate School procedures and requirements for processing one's application for graduation.

Courses (ZOOL)

Students enrolled in zoology courses may incur field trip or laboratory expenses of \$5 to \$25.

400-3 Cell Biology of Development. Cellular molecular mechanisms of embryogenesis and differentiation. Examination of the cell as a component of interacting tissues constituting the developing organism. Prerequisite: 300 or Biology 309, or advanced standing in Life Sciences or consent of instructor.

401-3 Developmental Neurobiology. This course presents a survey of the basic principles that underlie the development of the nervous system, including an examination of the important questions and issues currently being studied by

neuroembryologists. Prerequisite: advanced standing in biology/science or consent of instructor.

402-3 Natural History of Invertebrates. Introduction to ecology, intraspecies communication and interspecies relationships of invertebrate animals. Recommended for teacher preparation programs. Two lectures and one 2-hour laboratory per week. Offered Fall term. Prerequisite: 220a.

403-3 Natural History of Vertebrates. Life histories, adaptations, and identification of fish, amphibians, reptiles, birds, and mammals, empha-

sizing local species. Recommended for teacher preparation programs. One lecture and two 2-hour laboratories per week. Offered Spring semester. Prerequisite: 220b or consent of instructor.

404-3 Evolutionary Biology. Concepts and principles of modern evolutionary theory at a level appropriate for upper-division majors and graduate students in any biological science. Prerequisite: 220a,b or equivalent and Biology 305 or consent of instructor.

405-3 Systematic Zoology. Theory and procedure of classification; population taxonomy; variation and its analysis; rules of zoological nomenclature; taxonomic publication. Three one-hour lecture-discussion meetings per week. Prerequisite: 220a,b and consent of instructor.

406-3 Protozoology. Taxonomy, cytology, reproduction, and physiology of unicellular animals. Laboratory methods for culture and study. One lecture and two 2-hour laboratories per week. Offered Fall term. Prerequisite: 220a.

407-4 Parasitology. Principles, collection, identification, morphology, life histories and control measures. Two lectures and two 2-hour laboratories per week. Offered Spring term. Prerequisite: 220a.

408-3 Herpetology. Taxonomic groups, identification, morphology, and natural history of amphibians and reptiles. One lecture and two 2-hour laboratories per week. Offered Fall term. Prerequisite: 220b.

409-4 Vertebrate Histology. Microscopic structure of organs and tissues with emphasis on mammalian material. Two lectures and two 2-hour laboratories per week. Offered Spring term. Prerequisite: 10 to 12 semester hours of biological science.

413-4 The Invertebrates. Structure, phylogeny, distinguishing features and habitats of the invertebrates. Two lectures and two 2-hour laboratories per week. Offered Spring term. Prerequisite: 220a.

414-4 Freshwater Invertebrates. Taxonomic groups, identification, distribution and habitats of the North American freshwater invertebrate fauna. Two lectures, two 2-hour laboratories per week. Offered Fall term. Prerequisite: 220a.

415-3 Limnology. Lakes and inland waters; the organisms living in them, and the factors affecting these organisms. Two lectures per week and one four-hour laboratory alternate weeks. Offered Fall term. Prerequisite: 220a.

418-4 Comparative Vertebrate Anatomy. The comparative structure and evolution of vertebrate organ systems. Two lectures and two 2-hour laboratories per week. Offered spring term. Prerequisite: 220b.

421-4 Histological Techniques. Methods of preparing animal tissue for microscopic study and learn theories of staining and histochemistry. One lecture and two three-hour laboratories per week. Offered Fall term. Prerequisite: ten semester hours of biological science.

426-3 Comparative Endocrinology. Comparison of mechanisms influencing hormone release, hormone biosynthesis and the effects of hormones on target tissues. Include ablation and histology of glands and chemical and bio-assays with vertebrates and invertebrates. Two lectures and one

two-hour laboratory per week. Offered Spring term.

458-3 Issues in Aquatic Ecology. With its primary focus on freshwater ecosystems, this course will cover important issues in aquatic ecology including: surface water and groundwater quality, global warming, use of fish hatcheries, exotic species, genetically manipulated organisms, stream habitat degradation, dams, diversions, the Great Lakes, local issues. Prerequisite: Biology 307 or consent of instructor.

460-2 Upland Game Birds. Biological overview and identification of upland and shoreline game birds plus raptors and selectively-managed species. One lecture and one two-hour laboratory per week; there will be up to two Saturday field trips. Offered Spring term. Prerequisite: 220b or consent of instructor.

461-3 Mammalogy. Taxonomic characteristics, identification, and natural history of mammals. Two one-hour lectures and one two-hour laboratory per week. Offered Spring semester. Prerequisite: 220b.

462-3 Waterfowl. Identification, life history, ecology, and management. Two lectures and one two-hour laboratory per week; there will be three or four Saturday field trips. Prerequisite: 220b or consent of instructor.

463-3 Game Mammals. Natural history and management. Two lectures and one two-hour laboratory per week. Prerequisite: 220b or consent of instructor.

464-3 Wildlife Administration and Policy. Responsibilities of private, state, and federal natural resources management agencies. Legal and political processes in areas of wildlife and natural resources. Three lecture per week. Offered Spring term. Prerequisite: consent of instructor.

465-3 Ichthyology. Taxonomic groups, identification, and natural history of fishes. Two lectures and one two-hour laboratory per week. Offered Spring term. Prerequisite: 220b.

466-3 Fish Management. Sampling, age and growth, dynamics, habitat improvement, manipulation of fish populations, and management of freshwater and marine fish stock. Two lectures per week and one four-hour laboratory alternate weeks. Offered Fall term. Prerequisite: ten hours of biological science or consent of instructor.

467-3 Ornithology. Classification and recognition of birds and the study of their songs, nests, migratory habits and other behavior. One lecture and one four-hour laboratory per week. Offered Spring term. Prerequisite: 220b.

468-3 Wildlife Biology Principles. Basic concepts of wildlife ecology and management. Includes lectures on ecological physiology, population dynamics and wildlife management strategies. Prerequisite: Biology 307 and seven other semester hours of biological science.

469-3 Wildlife Techniques. Field-oriented course with instruction in techniques for management of wild species and their habitat. One 1 1/2-hour lecture and one 3-hour laboratory per week, two of which may be field trips on Saturdays. Prerequisite: 10 semester hours in Biology and/or Zoology or consent of instructor.

471-4 Entomology. Structure, classification, and life histories of insects. Two lectures and two 2-

hour laboratories per week. Offered Fall term. Prerequisite: 220a.

473-4 Aquatic Entomology. Structure, classification and biology of aquatic insects. Two lectures and two 2-hour laboratories per week. Offered Fall semester. Prerequisite: 220a.

475-3 Advanced Cell Biology. (Same as Plant Biology 475) Cell structure at molecular and cytological levels. Includes discussions of research methods, and plasma membrane, cell exterior and recognition, the endomembrane system and related organelles, self-replicating organelles, the cytoskeleton, nuclear structure and function in cell replication, cell differentiation and response, and eukaryotic cell evolution. Prerequisite: Biology 306 or equivalent.

476-2 Advanced Cell Biology Laboratory. (Same as Plant Biology 476) Laboratory course to accompany 475. Light and electron microscopy, cell culturing, biochemical methods, and experimental protocols are used to study the structure of cell membranes, intracellular organelles, including the Golgi apparatus, ER, mitochondria, plastids, lysosomes, the cytoskeleton and nucleus. Prerequisite: 475 or concurrent enrollment.

477-3 Fish Culture. Production of game, food and bait fishes. Design of facilities, chemical and biological variables, spawning techniques, diseases and nutrition. Two lectures per week and one four-hour laboratory alternate weeks. Prerequisite: ten hours of biological science or consent of instructor.

478-3 Animal Behavior. Biological basis of the behavior of animals. Two lectures and one two-hour laboratory per week. Offered Fall semester. Prerequisite: one year of biological science or permission of instructor.

480-3 to 4 Research Methods in Animal Behavior. Skills relevant to conducting research in animal behavior. Guided self-instructional format, with two 2.5-hour periods scheduled weekly, primarily as question/answer and evaluation sessions. Offered Spring semester. Prerequisite: 478 and a course in statistics is recommended, or permission of instructor.

485-2 to 4 Special Topics in Zoology. Examination of topics of special interest not available in other departmental courses. Offered in response to student need and faculty availability. Prerequisite: consent of instructor.

496-2 to 4 Zoology Field Studies. A trip of four to eight weeks to acquaint students with animals in various environments and with methods of field study, collection, and preservation. Offered Fall, Spring, Summer terms. Prerequisite: consent of department.

497-3 Helminthology. Identification, structure, physiology, and life history of parasitic helminths. Three lectures per week. Prerequisite: 407.

500-3 Molecular Evolution. (Same as Plant Biology 504) Survey of the theory and processes of organic evolution at the level of protein and DNA in animals. Quantitative analysis of empirical genetic information; methods of phylogenetic inference from molecular data. Three lectures per week. Prerequisite: 404 or equivalent.

510-3 Seminar on Evolution. Current topics in evolutionary biology and systematics. Format is student presentations and group discussions of

relevant literature and research. Prerequisite: consent of instructor.

514-3 Advanced Entomology. Morphology, physiology, systematics, and distribution of insects. One lecture and two 2-hour laboratories. Prerequisite: 471.

520-3 Advanced Invertebrates. The nature and life of invertebrate animals with emphasis on comparative form, function, behavior and occurrence. Three two-hour meetings per week. Prerequisite: consent of instructor.

521-3 Stream Ecology. The physical, chemical, and biological factors affecting organisms in streams. Two lectures per week and one four-hour laboratory alternate weeks. Prerequisite: 415 and consent of instructor.

525-3 Cytology. An analysis of the subcellular and cytochemical organization of the cell. Structural-functional aspects of organelles, membranes, and other cellular components, their relationship to the metabolic nucleus, substructural organization of hereditary material, and subcellular aspects of mitosis and meiosis are emphasized. Two lectures and one laboratory per week.

530-3 Wildlife Diseases. Introduction to the causes and nature of diseases of wildlife with emphasis on wild mammals and birds. The relationship of disease to the population ecology of species will be emphasized further. Two lectures and one two-hour laboratory per week. Offered Spring term. Prerequisite: consent of instructor.

532-3 Wildlife Toxicology. Fate and effects of environmental toxicants in wildlife. Review of descriptive and mechanistic toxicology for environmental contaminants. Investigation of the relationship between individual and community responses to toxicant exposure. Examination of current hazard assessment protocols and associated regulatory agencies. Prerequisite: 468a or consent of instructor.

534-3 Wildlife Habitat Analysis. Physical, biological and behavioral factors that influence habitat use and selection by wild vertebrate populations. Landscape level analysis of wildlife habitats. Modeling habitat suitability, environmental impact and wildlife population dynamics with habitat data. Application and use of remote sensing and geographic information systems in natural resource management and habitat evaluation. One two-hour lecture and one two-hour laboratory per week. Prerequisite: consent of instructor.

540-3 Factors in Animal Reproduction. Genetic and physiological factors in determination, differentiation and modification of sex in animals. Three lectures a week. Prerequisite: consent of instructor.

550-3 Developmental Gene Regulation. Gene regulation during animal development and its analysis. Describes the hierarchy of gene interactions that lead to cell fate determination. The function and regulation of transcription factors and signal transduction proteins are covered. Methods of investigation are discussed. Examples are taken from yeast, *Drosophila*, *Xenopus*, and mouse. Three lectures per week. Prerequisite: Biology 305 or 309 or equivalent, or by permission.

564-1 to 2 Fish Culture Techniques. Practical experience in fish culture techniques. Course consists of modules which require student participation in hands-on experience, (e.g., spawning, in-

duction of spawning, production of fry, operation and grading, diagnosis and treatment of parasites and diseases, and transporting of fish). One credit for completion of two modules. Register any semester, one year to complete elected number of modules. Written report and examination required for each module. Cost incurred by student varies with modules selected. Prerequisite: 566 or consent of instructor.

565-3 Environmental Physiology of Fish. Synthesis of effects of pollutants on physiological processes of fish. Course begins with an overview of fish physiology. Topics include: concepts, methods, and measurements in aquatic toxicology; histopathological, physiological, and behavioral responses to pollutants; and toxicity of heavy metals, organics, particulates and other pollutants. Three lectures per week. Prerequisite: 465 or consent of instructor.

568-2 Fish Stock Assessment. Methods of characterizing fish populations including mortality rates, age growth analysis, population sampling, yield models, habitat evaluation procedures and creel survey techniques. Two one-hour meetings per week. Prerequisite: 466 or consent of instructor.

569-3 Advanced Fisheries Management. Advanced topics related to the management of fisheries including urban fisheries, native American fisheries, freshwater commercial fisheries, Great Lakes fisheries, impact of power generating plants on fishes, and in-depth consideration of indices of community structure and current topics in fish management. Three lectures per week. Prerequisite: 466 or consent of instructor.

570-3 Advanced Fish Culture. Methods for the production of coldwater, coolwater, warmwater and tropical species. Three lectures a week. Prerequisite: 566 or consent of instructor.

573-3 Physiological Ecology. The role of physiological, morphological, and behavioral adaptations and adjustments in the ecology of vertebrate organisms with special emphasis on examining the energy balance and environment as it influences vertebrate ecology. Two hours of lecture and one two-hour laboratory. Prerequisite: Biology 307 or equivalent, and consent of instructor.

577-2 Population Ecology. Principles of population dynamics as related to animals. Two lectures per week. Prerequisite: consent of instructor.

578-3 Population Genetics. Genetic structure of populations, factors causing changes and principles governing rate and direction of change. Three lectures per week. Prerequisite: 404.

579-3 Molecular Genetics Techniques. Practical experience in molecular genetics techniques currently used in zoology for population genetic analysis and for molecular systematics. Emphasis will be on methods for allozyme, mtDNA and nuclear DNA analysis. Class projects will focus on experimental design, data collection and analysis. Prerequisite: consent of instructor.

581-2 Zoological Literature. Diversity and functions of zoological literatures, scientific writing and the publication process. Two lectures per week. Prerequisite: graduate status in a biological science.

582-1 to 4 (1,1,1,1) Graduate Zoology Seminars. Special topics in zoology. Consult department for each semester's topic. One meeting per

week. Prerequisite: consent of instructor and department.

583-1 Teaching Zoology in College. Methods, practices, and objectives in teaching zoology at the college/university level. Designed as part of the apprenticeship program for preparation of college teachers. Required of departmental teaching assistants. One hour lecture per week. Graded *S/U* only. Prerequisite: graduate status in a biological science.

584-3 Fish Genetics. Genetic principles and their application to management and culture of fish. Course includes an overview of biochemical and molecular genetics, conservation genetics, genomic manipulations and quantitative genetics. Prerequisite: Biology 305 or consent of instructor.

585-36 (3 per topic) Seminar. Advanced study of special topics in zoology. (a) Seminar in animal behavior. (b) Seminar in neurobiology of metazoa. Survey of the cytology and histology of nerve cells, and the sheath elements separately as they appear in organized tissues of metazoa. (c) Seminar in ecosystems. (d) Seminar in wetland ecology. (e) Seminar in wildlife ecology: impact of land use. (f) Seminar in fish biology. Survey of fish biology and ecology dealing largely with topics not covered in 465. Life history strategies, physiology and other fundamental biological features of fishes will be covered in some depth. Prerequisite: 465. (g) Seminar in parasitology. (h) Seminar on the amphibia. (j) Seminar in developmental biology. Detailed coverage of current topics of interest in developmental biology; the course will emphasize interacting systems in the development of both vertebrates and invertebrates, from the molecular to the tissue levels. Prerequisite: 300, Biology 309, or equivalent. (z) Seminar in selected topics. Prerequisite: consent of instructor or department.

586-1 Fisheries Seminar. Contemporary topics, literature, and oral and written communication in fisheries science. Enrollment required for zoology graduate students specializing in fisheries science for all fall and spring semesters until degree requirements are completed, unless exempted by the student's academic advisor. Only one 586 credit hour, however, may be used to satisfy degree requirements. One meeting per week.

587-3 Community Ecology. This course focuses on a search for pattern in the structure, composition and dynamics of ecological communities. We will examine similarities and differences in composition or structure of ecological communities to try to establish what factors may determine or constrain their organization in time and space. This course complements material presented in 577. Prerequisite: Biology 307 or equivalent.

593-1 to 12 Individual Research. Investigation in zoology other than those for theses. Only three hours may be credited toward a degree. Some costs may be borne by the student.

596-1 to 66 (1 to 12 per semester) Research. Graded *S/U* only. Credit may not be used toward a degree in Zoology. Prerequisite: consent of instructor.

597-1 to 12 Advanced Zoological Techniques. Individualized techniques or experimental procedures to prepare for dissertation research. May be taken at another university. Number of credits determined by committee. Graded on *S/U* basis

following final report submitted to major adviser. Prerequisite: admission to Ph.D. degree program in Zoology and consent of major adviser.

598-1 to 6 Research Paper. Research paper for Master of Science degree for Biological Sciences major. Some cost may be borne by the student. Graded *S/U* only. Prerequisite: consent of instructor.

599-1 to 12 Research and Thesis. Thesis for Master of Science degree. Only six hours may count toward the degree. Some cost may be borne by student. Graded *S/U* only. Prerequisite: consent of instructor.

600-1 to 32 (1 to 16 per semester) Research and Dissertation. Research and dissertation for

Doctor of Philosophy degree. Some cost may be borne by student. Graded *S/U* only. Prerequisite: consent of instructor.

601-1 per semester Continuing Enrollment. For those graduate students who have not finished their degree programs and who are in the process of working on their dissertation, thesis, or research paper. The student must have completed a minimum of 24 hours of dissertation research, or the minimum thesis, or research hours before being eligible to register for this course. Concurrent enrollment in any other course is not permitted. Graded *S/U* or *DEF* only.

Other Graduate Faculty

Some faculty listed below may not be directly affiliated with a graduate program but have been awarded graduate faculty status to perform certain functions at the graduate level. These individuals are arranged according to their unit affiliation.

The first of the two dates listed with the name of a faculty member indicates the year in which the highest degree was earned; the second date indicates the year when the person first became a faculty member at Southern Illinois University at Carbondale.

COLLEGE OF APPLIED SCIENCES AND ARTS

Bleyer, Dorothy R., Associate Professor, *Emerita*, Ph.D., Southern Illinois University at Carbondale, 1977; 1957.

Clarke, David S. C., Professor, Ph.D., California University for Advanced Studies, 1989; M.S., Catholic University, 1980; 1981. Architecture, urban design, business, economics and management.

Davis, Diane, Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1990; 1976. Business and office occupation training in education.

Ellner, Jack R., Professor, *Emeritus*, Ph.D., New York University, 1969; 1971.

Evans, Candy, Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1992; 1980. Educational administration.

Gonzenbach, Nancy, Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1990; 1975. Business and office occupation training in education.

Grace, Linda, Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1985; 1981. Education.

Henry, Janice S., Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1987; 1974. Vocational education and business.

Isberner, Fred R., Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1984; 1985. Health education.

Morgan, Barbara, Assistant Professor, Ph.D., Southern Illinois University at Carbondale, 1992; 1973. Business and office occupation training in education.

Morse, Pauletta, Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1989; 1976. Business and office occupation training in education.

NewMyer, David A., Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1987; 1977. Education.

Rehwalddt, Susan, Assistant Professor, Ph.D., Southern Illinois University at Carbondale, 1982; 1987. Organizational communication, professional development, computer-mediated communication, higher education administration.

Rutledge, Clifton D., Associate Professor, *Emeritus*, M.Arch., Kansas State University, 1968; 1965.

Schafer, Joseph A., Associate Professor, Aviation Technology, B.S., Lewis College, 1960.

Soderstrom, Harry, Professor, *Emeritus*, M.S., Bradley University, 1952; 1962.

Stitt, Beverly, Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1980; 1982. Business and office occupation training in education.

Troutt-Ervin, Eileen, Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1986; 1976. Occupational education.

Vitello, Elaine M., Professor and *Dean*, College of Applied Sciences and Arts, Ph.D., Southern Illinois University at Carbondale, 1977; 1977. Health Education.

BLACK AMERICAN STUDIES

Brown, Joseph A., Associate Professor, Ph.D., Yale University, 1984; 1997.

Dawson, Nancy J., Assistant Professor, D.A., University of Albany, State University of New York, 1995; 1995.

LIBRARY AFFAIRS

Bauner, Ruth E., Associate Professor, *Emeritus*, Ph.D., Southern Illinois University at Carbondale, 1978; 1956.

Black, George W., Jr., Professor, *Emeritus*, M.S.L.S., Columbia University, 1966; 1968.

Brown, F. Dale, Associate Professor, *Emeritus*, Ph.D., Southern Illinois University at Carbondale, 1978; 1970.

Cox, Shelley M., Associate Professor, M.A.L.S., University of Chicago, 1973; 1973.

Fox, James W., Assistant Professor, M.L.S., University of North Carolina, 1975; 1975.

Harwood, Judith A., Associate Professor, *Emeritus*, Ph.D., Southern Illinois University at Carbondale, 1981; 1969.

Hostetler, Jerry, Assistant Professor, Ph.D., Southern Illinois University at Carbondale, 1977; 1968.

Kilpatrick, Thomas L., Professor, Ph.D., Vanderbilt University, 1982; 1964.

Koch, David V., Associate Professor, M.A., Southern Illinois University at Carbondale, 1963; 1959.

Matthews, Elizabeth W., Professor, *Emeritus*, Ph.D., Southern Illinois University at Carbondale, 1972; 1964.

Person, Roland C., Professor, Ph.D., Southern Illinois University at Carbondale, 1982; 1970.

Peterson, Kenneth G., Professor, *Emeritus*, Ph.D., University of California, Berkeley, 1968; 1976.

Russell, Thyra K., Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1987; 1972.

Simon, John Y., Professor, Ph.D., Harvard University, 1961; 1964.

Snyder, Carolyn A., Professor and *Dean* of Library Affairs, M.L.S., University of Denver, 1965; 1991.

Stubbs, Walter R., Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1983; 1968.

SCHOOL OF MEDICINE;

CARBONDALE AND SPRINGFIELD
CAMPUSES

Chavez, Daniel J., Associate Professor, Ph.D., Colorado State University, 1979; 1981.

Clough, Richard W., Associate Professor, Ph.D., University of Nebraska, Medicine, 1983; 1987.

Dayringer, Richard, Professor, Th.D., New Orleans Baptist Theological Seminary, 1968; 1974.

Estavillo, Jaime A., Professor, Ph.D., University of California, 1970; 1975.

Evans, Miles S., Associate Professor, M.D., M.S., University of Louisville School of Medicine, 1982; 1990.

Folse, J. Roland, Professor, M.D., Johns Hopkins University, 1958; 1971.

Getto, Carl, Professor and *Dean* of the School of Medicine, M.D., Loyola University Stritch School of Medicine, 1972; 1993.

Hawe, Anthony, Clinical Associate Professor, *Emeritus*, M.B., Ch.B., Liverpool University, 1959; 1971.

Jackson, Robert W., Professor and *Executive Associate Dean*, Ph.D., Purdue University, 1963; 1974.

Khardori, Nancy, Professor, M.B.B.S., Government Medical College; 1972; 1989.

Koschmann, Timothy, Associate Professor, Ph.D., Illinois Institute of Technology, 1987; 1988.

Lacey, Ella, Associate Professor, *Emerita*, Ph.D., Southern Illinois University at Carbondale, 1979; 1972.

Parr, Earl L., Professor, Ph.D., Rockefeller University, 1968; 1981.

Parr, Margaret, Associate Professor, Ph.D., Columbia University, 1966; 1978.

Travis, Terry, Professor, M.D., Kansas University, 1964; 1972.

Zook, Elvin G., Professor, M.D., Indiana University, 1963; 1973.

Other Graduate Courses

The 400- and 500-level courses listed below are offered by Southern Illinois University at Carbondale for graduate credit, but they are not linked to a specific department.

Agriculture

Courses (AGRI)

401-3 Fundamentals of Environmental Education. (Same as Forestry 401 and Recreation 401.) A survey course designed to help education majors develop an understanding of environmental problems and an awareness of how these types of problems can be handled both inside and outside the classroom. Prerequisite: ten hours of bio-

logical science, or ten hours of recreation and/or education, or consent of instructor.

423-3 Environmental Interpretation. (Same as Forestry 423 and Recreation 423.) Principles and techniques of natural and cultural interpretation. Two hours lecture, three hours laboratory. Approximately \$10 cost for field trips. Prerequisite:

site: ten hours biological science or ten hours of recreation.

450-2 Farming Systems Research and Development. An introduction to farming systems, which is an interdisciplinary approach to agricultural research and development emphasizing small farms. The whole farm is viewed as a system of interdependent components controlled by the farm household. Focuses on analyzing interac-

tions of these components as well as the physical, biological and socioeconomic factors not controlled by the household. Techniques of analysis are applicable domestically and internationally.

481-1 International Agricultural Seminar. Discussion of special topics relating to worldwide agricultural development. Prerequisite: consent of instructor.

Engineering Technology

E-mail: shellie@engr.siu.edu

Courses (ET)

There is no graduate program offered through engineering technology. See manufacturing systems for graduate program description. Four-hundred-level courses in this listing may be taken for graduate credit unless otherwise indicated in the course description.

401-3 Refrigeration and Air Conditioning. Applications of thermodynamics and heat flow to air conditioning systems. Heating and cooling load analysis. Principles of human comfort. Discussion of various refrigeration and air conditioning cycles and their application to laboratory simulators. Laboratory. Prerequisite: 313.

403-8 (4,4) Electronics Technology. (a) Fundamental theory and operation of semiconductor diodes and bipolar transistors, incremental models for transistors, biasing, stability, and feedback of single and multistage amplifiers. Parameters and applications of field-effect transistors, optoelectronic devices, thyristors, unijunction transistors and amorphous semi-conductors. Laboratory. **(b)** Parameters and applications of operational amplifiers, linear integrated circuits, monolithic voltage regulators, and digital integrated circuits. Laboratory. Must be taken in a,b sequence. Prerequisite: 304b, 403a.

413-4 Field Survey Problems. Perform extensive field projects in the areas of engineering, hydrographic, land and control surveying. To be held at Crab Orchard National Wildlife Refuge. Course must be taken concurrently with 414. Prerequisite: 263 and one of 361, 362 or 363.

414-2 Field Project Planning and Computations. Planning, organization, computations, and drafting of field survey projects including the needed mapping utilizing calculators, computers, and CAD. This course must be taken concurrently with 413. Prerequisite: 263 and one of 361, 362 or 363.

415-4 Elementary Structural Design. Introduction to structural properties of steel and reinforced concrete. Design of basic steel elements: tension members, beams, columns, and connections. Basic design of reinforced concrete elements: beams, columns, and footings. Use of AISI and ACI codes. Prerequisite: 202, 311 (or concurrent enrollment), 315.

424-6 (3,3) Power Systems Technology. (a) Fundamentals of basic power plant operation, economics and equipment. Advanced Rankine cycles and cogeneration. Fuel classification and combustion principles. Alternative energy source and conversion. Students work concurrently on group design projects emphasizing written and

oral deliverables. Prerequisite: 311, 312, 313, 317, 318 **(b)** Alternate energy systems, e.g. wind power, solar energy, geothermal energy, biomass. Extension of 424a with heavier emphasis on optimization of design. Prerequisite: 424a.

426-5 (3,2) Photogrammetry. (a) Cameras and photography; flight planning; mathematical principles of vertical and tilted aerial photographs; ground control methods; extension of control; stereoscopy and parallax; basic instruments, stereo plotters, and latest developments. Laboratory. Prerequisite: 263 or consent of instructor. **(b)** Rectification of tilted photographs; stereoscopic plotting instruments; principles and use of oblique photography; analytic photogrammetry and new concepts. Laboratory. Prerequisite: 426a or consent of instructor.

437-8 (4,4) Communications Systems Technology. (a) Theory and applications of radio frequency transmission lines, waveguides, optical fibers, wave propagation, and antennas. Laboratory. Prerequisite: 304b. **(b)** Theory and applications of analog and digital communications systems. Laboratory. Prerequisite: 403a, 437a.

438-8 (4,4) Continuous and Digital Control Systems. (a) Fundamentals of continuous control systems; equation of electrical, hydraulic and thermal systems; application of Laplace transforms, transfer functions, block diagrams, and flow graphs. Computer implemented graphical analysis and design methods: root locus, frequency response. Nyquist diagrams and compensator design. Continuous systems laboratory. Prerequisite: 304b. **(b)** Fundamentals of digital control systems, Stepper motors, digital data acquisition and interface components, Fourier transforms, Z transforms, and applications of fast Fourier transform. Digital control laboratory. Prerequisite: 438a.

439-4 Microprocessor Applications and Hardware. A study of microprocessor applications and hardware based on microprocessor manufacturer's literature. System configuration, hardware, requirements, typical instruction set, programming, input/output techniques, interfaces and peripheral devices. Prerequisite: 238.

445-3 Computer-Aided Manufacturing. (Same as Industrial Technology 445) Introduction to the

use of computers in the manufacturing of products. Includes the study of direct and computer numerical control of machine tools as well as interaction with process planning, inventory control and quality control. Laboratory. Prerequisite: 103 or Industrial Technology 105, Industrial Technology 208 or Engineering Technology 209, and computer programming.

455-3 Industrial Robotics. (Same as Industrial Technology 455) Study of industrial robots and their applications; pendant and numerical programming of robots. Robotics design including tactile and visual sensors. Technical and psychological problems of justification, installation and management of robotic systems. Prerequisite: 445.

Industrial Technology

Courses (IT)

There is no graduate degree program offered through industrial technology. See Manufacturing Systems for graduate program descriptions.

410-3 Mining Reclamation. Study of reclamation techniques associated with underground and surface coal mining. Emphasis is placed on the integration and cost trade-offs associated with coal extraction and reclamation as well as federal, state and local regulations. Prerequisite: consent of instructor.

420-3 Coal Preparation and Analysis. Study of coal preparation and blending in association with coal analysis. Design and operation of preparation plants including water management, waste management, coal storage, loading and transportation.

425-3 Advanced Process Design and Control. Extension of other process courses offered. Meets the need of those students who enter the field of manufacturing by giving more emphasis on planning, estimating and control of industrial processes. Laboratory. Prerequisite: 208, 209.

430-3 Health and Injury Control in A Work Setting. (Same as Health Education 430.) Assesses the health and injury control programs present in a work setting. Emphasis given to employee programs in health, wellness and injury control that are effective. Field trips to work sites are included.

439-3 Bulk Materials Handling. Study of the various types of equipment used in the mining industry. Estimation of costs and output of equipment used for excavating and transporting earth materials. Prerequisite: appropriate background.

440-3 Manufacturing Policy. Review of all areas covered by the industrial technology program. Includes problems which simulate existing conditions in industry. Students present their solutions to the class and to the instructor in a formal manner. Prerequisite: 358, 375, 382 and 475.

441-3 Mine-Safety Technology. An in-depth study of the technological implications of the Federal Coal Mine Health and Safety Act. Emphasis is placed on the technology required to operate safely underground coal mines. Prerequisite: appropriate background.

445-3 Computer-Aided Manufacturing. (Same as Engineering Technology 445) Introduction to the use of computers in the manufacture of products. Includes the study of direct and computer numerical control of machine tools as well as interaction with process planning, inventory control and quality control. Laboratory. Prerequisite: Engineering Technology 103 or Industrial Technology 105, Industrial Technology 208 or Engineering Technology 209, and computer programming.

455-3 Industrial Robotics. (Same as Engineering Technology 455) Study of industrial robots and their applications; pendant and numerical programming of robots. Robotics design including tactile and visual sensors. Technical and psychological problems of justification, installation and management of robotic systems. Prerequisite: 445.

460-3 Mining Technology. A capstone course to include all aspects of coal mining. Group projects are assigned on the design and development of a mine with emphasis on cost, productivity, yield, equipment and staffing. Prerequisite: 320, 321, 420 or consent of instructor.

475-3 Quality Control. Use of statistical quality control to improve work product quality. Topics include histogram, Pareto diagrams, control charts, acceptance sampling, process capability, cause and effect diagrams and reliability. Prerequisite: senior standing.

Medical Education Preparation

No graduate degree program is offered through medical education preparation. Four-hundred-level courses may be taken for graduate credit only with written permission of the relevant department and the graduate dean.

Science

Courses (SCI)

500-2 Science Information Sources. Methods and procedures to efficiently exploit the scientific literature are discussed. The two-hour class discussion will be supplemented by practical exercises in library usage. Prerequisite: consent of instructor.

501-4 (2,2) Research Transmission Electron Microscopy. (a) Theory of design of electron microscope, lenses, vacuum systems, alignment, specimen preparation and darkroom. (b) Practical experience in use of transmission electron microscope and specimen preparation.

502-4 (2,2) Research Scanning Electron Microscopy. (a) Theory of design for scanning electron microscope, lenses, vacuum systems, alignment, specimen preparation for biologists and materials scientists, darkroom. (b) Laboratory practical experience in use of scanning electron microscope and specimen preparation. Laboratory fee \$100.

503A-1 to 3 Science for Elementary School Teachers. In-depth studies of selected basic concepts in general science for teachers of upper-level elementary grades. Topics include cells and simple organisms, characteristics of vertebrates,

plate tectonics, solar system, nature of matter and magnetism. Prerequisite: currently teaching in an elementary school.

503B-1 to 3 Science for Elementary School Teachers. In depth studies of selected basic concepts in general science for teachers of upper-level elementary grades. Topics include human biology, characteristics of high plants, Earth's building blocks, the atmosphere, forces and simple machines. Prerequisite: currently teaching in an elementary school.

504-9 (1 to 3 per topic) Selected Topics in Science for Teachers. The course consists of selected basic concepts in general science for practicing teachers. Within a given semester a broad area is selected within either the biological sciences or the physical/earth sciences. Topics currently include: (a) Basic stream ecology; (b) Biological assessment of polluted streams; and, (c) Wetland ecosystems. Other topics may be added as deemed necessary. This course may not be used for graduate credit by College of Science majors. Prerequisite: currently teaching in an elementary school.

Women's Studies

Courses (WMST)

There is no approved graduate program in women's studies. Four-hundred-level courses may be taken for graduate credit unless otherwise indicated in the course description.

427-3 Women in the Visual Arts. (See Art and Design 457)

442-4 Sociology of Gender. (See Sociology 423)

445-3 Women and the American Political Process. (See Political Science 429)

454-3 to 6 Topics in Women's Literature. (See English 496)

456-3 Philosophical Perspectives on Women. (See Philosophy 446)

463-2 Greek Literature in Translation. (See Classics 405)

468-3 Law and the Social Control of Women in American History. (Same as Administration of Justice 468 and History 468) An examination of the ways in which the law affects the behavior, life chances, identities and experiences of women, from colonial times to the present. Team taught by faculty from history and administration of justice.

476-3 Women and the Criminal Justice System. (See Administration of Justice 460)

488-3 Women in the Home and Labor Market. An evaluation and interpretation of the economic contributions of women in household production and in the labor market. Related issues such as fair employment practices, role conflicts and legal issues will be considered.

490-1 to 6 Readings. Supervised readings in selected content areas of women's studies. Prerequisite: consent of instructor and women's studies coordinator.

491-1 to 6 Special Topics. Concentration on a topic of interest not offered through the regular course listings. Prerequisite: consent of instructor and women's studies coordinator.

492-3 to 6 Seminar in Women's Studies. A synthesizing experience for individuals minoring in women's studies and graduate students from various departments. Each semester will be a different topic. Activities may include, but are not limited to, a research project or preparation and presentation of a scholarly paper. Prerequisite: consent of women's studies coordinator.

493-2 to 6 Individual Research. Exploration of a research project under the supervision of a faculty member having graduate faculty status. The project must result in a written research report which is filed with the coordinator of women's studies. Prerequisite: consent of instructor and coordinator of women's studies and senior standing.

494-1 to 6 Practicum. Supervised practical experience in situations centering on women's issues, organizations, services, etc. The setting may be in one's own field of study or in the general

content areas recognized in the women's studies program. Prerequisite: consent of instructor and coordinator of women's studies.

550-3 The Psychological Construction of Gender. (Same as Psychology 550.) This course will focus on the psychology of gender within a feminist perspective and using a feminist approach. The term feminism, as used here, primarily implies that we will consider information and ideas for more diverse than simple empirical data.

In our reading and discussion, we will consider politics, discrimination, the history of science, the history of patriarchy, the development of theory and ideas in general and the development of feminism in particular, and objective versus subjective views of science, and within these contexts, we will consider and study the psychology of gender.

560-3 Gender and Sport. (See Physical Education 560.)

Index

3-2 Program 81

A

Academic dishonesty 55
Academic grievances policy/procedures 52
Academic Resources 61
Accelerated entry into a doctoral program 8
Accountancy 78
Accreditations 68
Administration of Justice 83
Admission
 Deadlines 13
 Of faculty members 14
 Of international students 14
 Requirements for 13
Admission to a degree program
 Doctor's 8
 Master's 5
Admission to candidacy 9
Agribusiness Economics 87
Agribusiness Economics Concentration 88
Agricultural Services Concentration 88
Agriculture 406
Animal care 4
Animal Science 90
Anthropology 95
Apartments 71
Appeals of department decisions to the Graduate School 54
Appendix A 55
Application fee 12
Application for graduate study 12
Applied Linguistics 102
Art 102
Art as a Teaching Specialty 104
Assistantships 21, 22, 23
Associations 69

B

Behavior Analysis and Therapy 107, 344
Biological Sciences 107
Black American Studies 405
Business Administration 109

C

Campus 2
Center for Advanced Friction Studies 63
Center for Advanced Radiation Sources 69
Center for Alzheimer's Disease and Related Disorders 64
Center for Archaeological Investigations 64
Center for Dewey Studies 64
Center for English as a Second Language 75
Center for Environmental Health and Safety 64
Center for Rural Health and Social Service Development 65
Center for the Study of Crime, Delinquency, and Corrections 122
Chemistry 122
Cinema and Photography 128
Civil Engineering 132
Coal Research Center 65
College of Applied Sciences and Arts 405
Communication Disorders and Sciences 136, 345
Complaints or suggestions 76
Computer Science 136
Concurrent degree program
 M.A. in telecommunications/M.B.A. 114, 386
 M.S. in agribusiness economics/M.B.A. 89, 114

Concurrent master's and law degrees programs 7
 Concurrent master's degrees program 7
 Continuing enrollment requirement 19
 Cooperative Fisheries Research Laboratory 66
 Cooperative Program with University of Illinois at Springfield 324
 Cooperative Wildlife Research Laboratory 65
 Costs (See tuition and fees) 28
 Council of Graduate Schools of the United States and Canada 70
 Council on Research Policy and Graduate Education 70
 Counselor Education 165
 Course loads 18
 Creative Writing 140
 Curriculum and Instruction 140

D

Deadlines for applying for admission 13
 Deadlines for withdrawing from the University or from a course 17
 Deferment of tuition and fees 30
 Degree requirements 5
 Delyte and Dorothy Morris doctoral fellowship 24
 Dental care 74
 Departmental Grievance Procedure 53
 Dial-A-Nurse program 74
 Disability support services 75
 Dishonesty 55
 Dissertation 10
 Dissertation research awards 24
 Doctoral Degree Program 8
 Doctoral degrees 4
 Double major for a master's degree 6

E

Economic and regional development 73
 Economics 150
 Educational Administration 159
 Educational Psychology 163, 164
 Electrical Engineering 169
 Engineering 174
 Engineering Technology 407
 English 178
 Enrollment 2
 Evergreen Terrace 71
 External support for graduate study 26

F

Facilities and Services 71
 Faculty appointments 26
 Family Housing 71
 Federal work-study 21
 Graduate assistantships 23
 Fees 28
 Fellowships 21, 22, 23, 24, 25, 67
 Final examination, doctoral students 11
 Finance 186
 Financial Aid office 26
 Financial assistance 21
 Food and Nutrition 93, 186
 Foreign Languages and Literatures 186
 Forest Resource Management Concentration 196
 Forestry 194
 French 188

G

General regulations and procedures for all graduate students 12
 General requirements
 Doctor's degree 8
 Master's degree 5
 Geography 200
 Geology 206
 Grading system 20
 Graduate assistants 22
 Graduate credit for an undergraduate student 35
 Graduate dean's fellowships 24
 Graduate degrees offered 2
 Graduate fellowships 23
 Graduate grading system 20
 Graduate internships 24
 Graduate School 2
 Graduate student tuition and fee schedule 28
 Graduation 57
 Grievance 52

H

Handling chemicals 5
 Health Education 212
 Higher Education 217
 History 220
 Housing 71
 Human subjects 4

I

Immunizations 74
 Industrial Technology 408

Information Technology 62
Interactive Multimedia 227
Interdisciplinary doctor of philosophy programs 11
International development 72
International students and scholars 72

J-K

Journalism 229

L

Late registration 16
Law courses 19
Library 61
Library Affairs 61, 406
Linguistics 235
Loans 21
Location of SIUC 2

M

M.A. in telecommunications /M.B.A.
concurrent degree program 114
M.A. in telecommunications/M.B.A.
concurrent degree program 386
Mail registration 16
Management 242
Manufacturing Systems 242
Marketing 244
Master of Fine Arts degree 3
Master's degree program 5
Master's degrees 2
Materials Technology Center 66
Mathematics 244
Mechanical Engineering 253
Medical Education Preparation 408
Mining Engineering 258
Molecular Biology, Microbiology and
Biochemistry 261
Morris Library 61
Music 267
Music Education Concentration 269
Music History and Literature
Concentration 268
Music Theory and Composition
Concentration 268

N

National Association of State
Universities and Land Grant
Colleges 70
National Council of University
Research Administrators 70

O

Oak Ridge Associated Universities 70
Off-Campus Housing 71

Office of Director, International
Programs and Services 72
Office of Research Development and
Administration 67
Ombudsman, University 76
Opera / Music Theater Concentration
269
Organization for Tropical Studies 70
Other Graduate Courses 407
Other Graduate Faculty 405
Outdoor Recreation Resource
Management Concentration 196

P-Q

Parking on campus 72
Payment and refunding of tuition and
fees 30
Performance Concentration 269
Pharmacology 273
Pharmacy 74
Philosophy 283
Phone registration 16
Physical Education 289
Physics 291
Physiology 293
Piano Education Arts Concentration
269
Placement Services of University
Career Services 71
Plant and Soil Science 310
Plant Biology 301
Political Science 315
Pontikes Center for Management of
Information 67
Posthumous degrees 58
Preliminary examination 9
Proactive Recruitment of
Multicultural Professionals for
Tomorrow (PROMPT) fellowship 25
Procedure governing the academic
grievance process 52
Psychology 329
Public Administration 340
Public Policy Institute 67

R

Radio-Television 340
Recreation 340
Registration 15
At the Graduate School 16
By mail 16
By phone 16
Late 16
Touch Tone 16
Registration methods 16

Rehabilitation Administration and Services 351
 Rehabilitation Counseling 353
 Rehabilitation Institute 343
 Release of student information and issuance of transcripts 58
 Requirements for admission 13
 Requirements for Advanced Degrees in Pharmacology 276
 Research and service centers 63
 Research shops and service 67
 Research tool requirement 9
 Residence Halls 71
 Residence-center credit 19
 Residency 9
 Residency status, determination of 31
 Retention 57

S

Satisfactory progress
 Policy for graduate students 26
 Probationary period 28
 Standards for graduate students 26
 Scholarships 21, 25, 26, 34, 73
 School of Law courses 19
 School of Medicine 406
 Science 409
 Second master's degree 7
 Sexual harassment policy 59
 Social Work 360
 Society for Research Administrators 71
 Sociology 365
 Southern Hills 71
 Southern Illinois University 1
 Spanish 188
 Special Education 372
 Speech Communication 376
 State fellowship programs for minority students 25
 Student Conduct Code 35
 Student course loads 18
 Student health programs 73
 Student Medical Benefit Extended
 Care fee 74
 Student responsibility 4
 Study Abroad 73

Summary of degree requirements
 Doctor's 12
 Master's 7

T

Teaching English to Speakers of Other Languages 384
 Telecommunications 384
 Test of English as a foreign language (TOEFL) 14
 Test scores 13
 The Doctoral Program in Education 156
 Theater 388
 Thesis 6
 Time limits for master's program 6
 Touch Tone Registration 16
 Traineeships 21, 24
 Transcripts 12
 Transfer credit 20
 Tuition and fees 28
 For civil service 34
 For faculty and staff 33
 Tuition scholarships 25

U–V

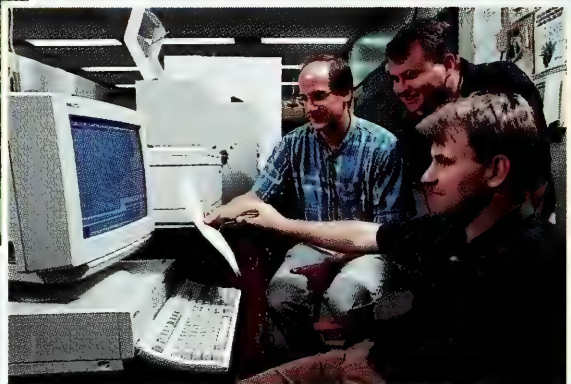
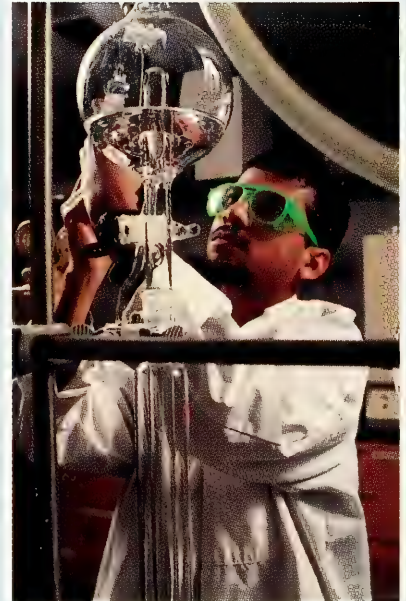
Unclassified students—non-degree 34
 Undergraduate student registration in graduate courses 35
 University employees, tuition and fees 33
 University ombudsman 76
 University policy concerning sexual harassment 59

W–Y

Withdrawal from courses and from the University 17
 Women's Studies 409
 Wood Science and Technology 196
 Workforce Education and Development 392

Z

Zoology 398



SOUTHERN ILLINOIS UNIVERSITY
Carbondale

For more information, contact:
The Graduate School
618-536-7791 or
<http://www.siu.edu/gradschl>

FROM: DEAN
GRADUATE SCHOOL 4716
TO: ARCHIVES (1)
MORRIS LIBRARY 6632

Southern Illinois University
Carbondale



SOUTHERN ILLINOIS UNIVERSITY
Carbondale

Undergraduate Catalog 1999-2000

Southern Illinois University Carbondale

1999-2000 Undergraduate Catalog

40/2

Visit our catalog website at <http://www.siu.edu/oar>

Southern Illinois University Carbondale (USPS 506-080)

Volume 40, Number 2, September, 1998

Periodicals postage paid at Carbondale, Illinois 62901. Published by Southern Illinois University Carbondale, Carbondale, Illinois 62901, four times per year, in August, September, October and November. Subscription price: \$4 per issue.

POSTMASTER: Send address changes to Southern Illinois University Carbondale, Publications Office, Southern Illinois University Carbondale, Carbondale, IL 62901-6513.

This Catalog

This publication provides information about the University. Primary attention is given to its academic programs, rules, regulations, and procedures. Students starting their collegiate training (first graded course from an accredited institution) during the period of time covered by this catalog (summer 1999 through spring 2000) are subject to the curricular requirements as specified herein. The requirements herein will extend for a seven calendar year period from the date of entry for baccalaureate programs and three years for associate programs. If the students have not met their undergraduate educational objectives by that time, they will then become subject to current curricular requirements. Should the requirements contained herein subsequently be changed by the University, students are assured that necessary adjustments will be made so that no additional time is required of them. Where programs include requirements established by agencies external to the University, every effort will be made to follow this same principle so far as possible. Should subsequent curricular requirement changes work to the students' advantage, they may elect to meet the new requirements rather than those contained herein. Should the University find it necessary to discontinue an academic program, the effective date, unless otherwise dictated, will be such that the last regularly admitted class will be able to complete the program in regular time sequence. This means four years for baccalaureate and two years for associate programs. A student who has withdrawn from the University may not be readmitted to a discontinued program.

The Undergraduate Catalog covers in detail questions concerning the undergraduate program of Southern Illinois University Carbondale for the period from summer 1999 through spring 2000. It supersedes Volume 39, Number 3.

Affirmative Action Policy

It is the policy of Southern Illinois University Carbondale to provide equal opportunity and educational opportunities for all qualified persons without discrimination on the basis of race, color, religion, sex, national origin, age, handicap, sexual orientation, or marital status. The University is committed to the principles of equal employment and affirmative action and will continue to conduct all personnel actions in accordance with the letter and spirit of applicable state and federal statutes and regulations, including Executive Order 11246 as amended. Personnel actions include, but are not limited to, recruitment, hiring, position assignments, compensations, training, promotions, tenure consideration and award, retention, lay-off, termination, and benefits.

The University recognizes that the barriers of race, sex, and national origin have resulted in the denial to some individuals of their full participation in all societal functions, and is committed to taking affirmative steps aimed at overcoming such historical patterns of discrimination in our society. The University's Affirmative Action Program identifies special actions intended to bring such groups into full participation in all aspects of university life. Through its Affirmative Action Program, Southern Illinois University Carbondale is committed to: (1) increasing the number of minority individuals and women in all aspects of the University, with special procedures applicable to those positions determined to be underutilized for minorities and women; (2) insuring cultural and educational diversity in the curricula of the University; (3) insuring the removal of barriers to the disabled; and (4) fostering attitudes in the University community that are supportive of the principles of equal opportunity and affirmative action to redress the consequences of past societal discrimination.

The responsibility for coordinating and monitoring compliance with the University's Equal Opportunity/Affirmative Action policy is assigned to the Executive Assistant to the Chancellor. Implementation and assuring compliance with this policy is the responsibility of all academic and administrative units.

Campus Map

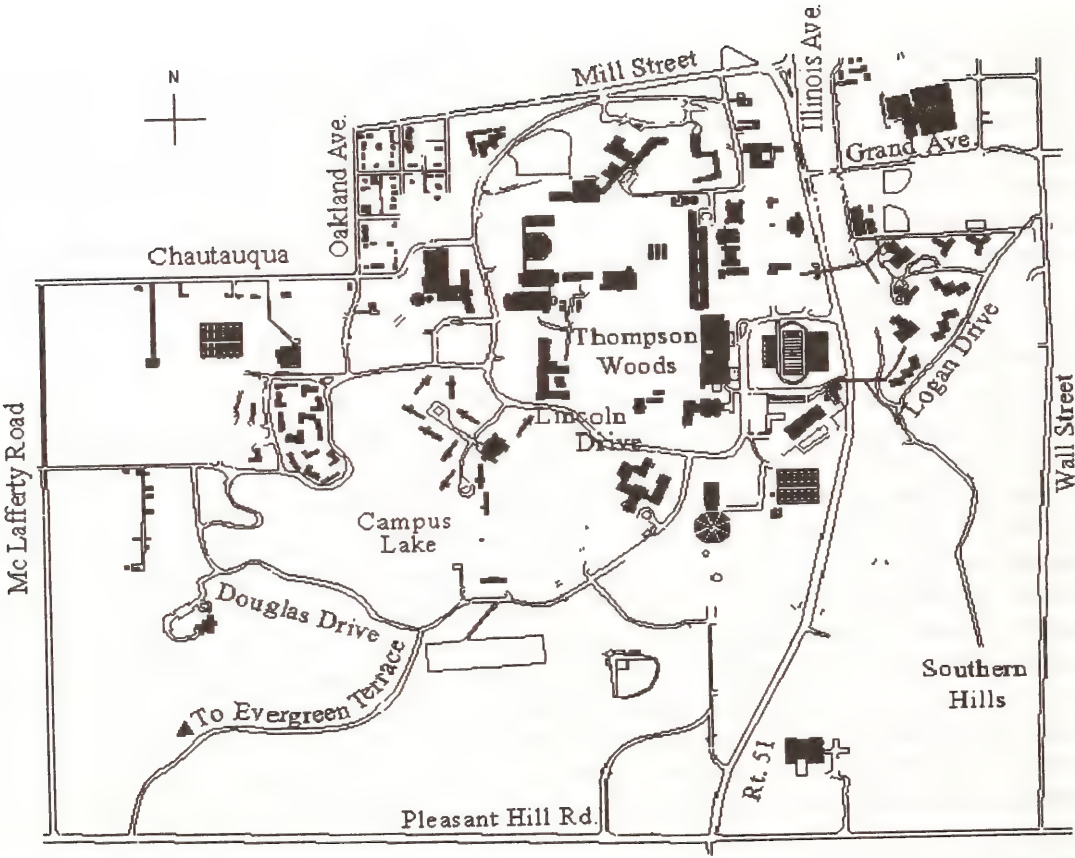


Table of Contents

Catalog and Catalog Year ii
Affirmative Action Policy..... iii
Campus Map..... iv
Board of Trustees and Officers of Administration..... vi
University Calendar 1998-99 vii
University Calendar 1999-2000 viii
Chapter Reference Guide..... ix

1 / General Information 1

The University 2
Campus Living 10
Parking on Campus 12
Financial Aid..... 12

2 / Admissions, Tuition and Academic Information 15

Admission Policies..... 16
Advisement, Registration..... 25
Tuition and Fees..... 29
Scholastic Regulations 35
Program Flexibility 39
Degrees Offered 43
Degree Requirements 44
Scholastic Achievement..... 46
Graduation Procedures 47
Issuance of Transcripts 48

3 / University Core Curriculum 49

University Core Goals 50
University Core Requirements 50
University Core Substitutions 52
University Core Courses 53
Multicultural Applied Option 59
Capstone Option 60

University Core and Transfer62
Illinois Articulation Initiative.....64

4 / Colleges and Academic Programs.....69

Agriculture70
Applied Sciences and Arts.....71
Business and Administration.....73
Education.....76
Engineering80
Liberal Arts.....82
Mass Communication and Media Arts84
Science85
Graduate School.....86
Library Affairs.....87
School of Law88
School of Medicine89
Academic Programs90

5 / Undergraduate Curricula and Faculty95

6 / Student Services489

Campus Life490
Campus Services497
International Programs504

7 / University Policies507

Residency Status508
Immunization Policy511
Release of Student Information.....512
Religious Observances519

Index521

Board of Trustees and Officers of Administration

Board of Trustees of Southern Illinois University	<i>Term Expires</i>
A.D. VanMeter, Jr., <i>Chair</i> , Springfield	1999
Molly D'Esposito, <i>Vice-Chair</i> , Winnetka	2001
George T. Wilkins, Jr., <i>Secretary</i> , Edwardsville	2003
John Brewster, Marion	2003
William R. Norwood, Carbondale	2001
Harris Rowe, Jacksonville	2001
Celeste M. Stiehl, Belleville	1999
Mike Ruta, (Student Trustee) Carbondale	1999
Phil Gersman, (Student Trustee) Edwardsville	1999
Sharon K. Holmes, <i>Executive Secretary of the Board of Trustees</i>	
Peter Ruger, <i>General Counsel</i>	
Donald W. Wilson, <i>Board Treasurer and Vice President for University Services</i>	

Officers of Administration, Southern Illinois University

Ted Sanders, *President*
Elaine Hyden, *Vice President for Planning and Budget Services*
John S. Haller, Jr., *Vice President for Academic Services*
Donald W. Wilson, *Vice President for University Services and Board Treasurer*
Garrett L. Deakin, *Executive Assistant for Government Relations*

Officers of Administration, Southern Illinois University Carbondale

Jo Ann E. Argersinger, *Chancellor*
John S. Jackson, *Vice-Chancellor for Academic Affairs and Provost*
James A. Tweedy, *Vice-Chancellor for Administration*
Harvey Welch, Jr., *Vice-Chancellor for Student Affairs*
Tom Britton, *Acting Vice-Chancellor for Institutional Advancement*
Walker M. Allen, *Director of Admissions and Records*

Approved 1998 - 1999 University Calendar

Summer Session, 1998

Eight-Week Session Begins
Independence Day Holiday
Final Examinations
Commencement

Monday, June 15, 7:30 A.M.
Friday, July 3
Thursday, August 6 and Friday, August 7
Saturday, August 8

Fall Semester, 1998

Semester Classes Begin
Labor Day Holiday
Fall Recess

Monday, August 24
Monday, September 7
Thursday, October 29 - Sunday,
November 1

Thanksgiving Vacation

Saturday, November 21, 12 Noon -
Sunday, November 29

Final Examinations

Monday, December 14 - Friday,
December 18

Commencement

Saturday, December 19

Spring Semester, 1999

Martin Luther King, Jr.'s Birthday
Holiday
Semester Classes Begin
Spring Vacation

Monday, January 18
Tuesday, January 19
Saturday, March 13, 12 Noon - Sunday,
March 21

Honor's Day
Final Examinations
Commencement

Sunday, April 11
Monday, May 10 - Friday, May 14
Friday, May 14, Saturday, May 15

All breaks begin officially at 10:00 p.m. the night before and end at 7:30 a.m. the morning after the respective beginning and ending dates listed, unless otherwise noted.

Accommodating Religious Observances of Students

Southern Illinois University Carbondale will make reasonable accommodation for individual student religious observances. The *Policy Accommodating Religious Observances of Students* appears in its entirety in Chapter 7.

tentative 1999 - 2000 University Calendar

Summer Session, 1999

First-Week Session Begins
Independence Day Holiday
Final Examinations
Commencement

Monday, June 14, 7:30 A.M.
Monday, July 5
Thursday, August 5 and Friday, August 6
Saturday, August 7

Second Semester, 1999

Second Semester Classes Begin
Labor Day Holiday
Winter Recess
Thanksgiving Vacation
Final Examinations
Commencement

Monday, August 23
Monday, September 6
Friday, October 29 - Monday, November 1
Saturday, November 20, 12 Noon - Sunday,
November 28
Monday, December 13 - Friday, December 17
Saturday, December 18

Spring Semester, 2000

Martin Luther King, Jr.'s Birthday
Holiday
Second Semester Classes Begin
Spring Vacation
Senior's Day
Final Examinations
Commencement

Monday, January 17
Tuesday, January 18
Saturday, March 11, 12 Noon - Sunday, March 19
Sunday, April 7
Monday, May 8 - Friday, May 12
Friday, May 12, Saturday, May 13

Breaks begin officially at 10:00 p.m. the night before and end at 7:30 a.m. the morning
after the respective beginning and ending dates listed, unless otherwise noted.

Chapter Reference Guide

The black tabs on the right of this page correspond to black tabs on Chapters 1 through 7 in this catalog.

Chapter 1

General
Information

Chapter 2

Admissions, Tuition and
Academic Information

Chapter 3

University Core
Curriculum

Chapter 4

Colleges and Academic
Programs

Chapter 5

Undergraduate Curricula
and Faculty

Chapter 6

Student Services

Chapter 7

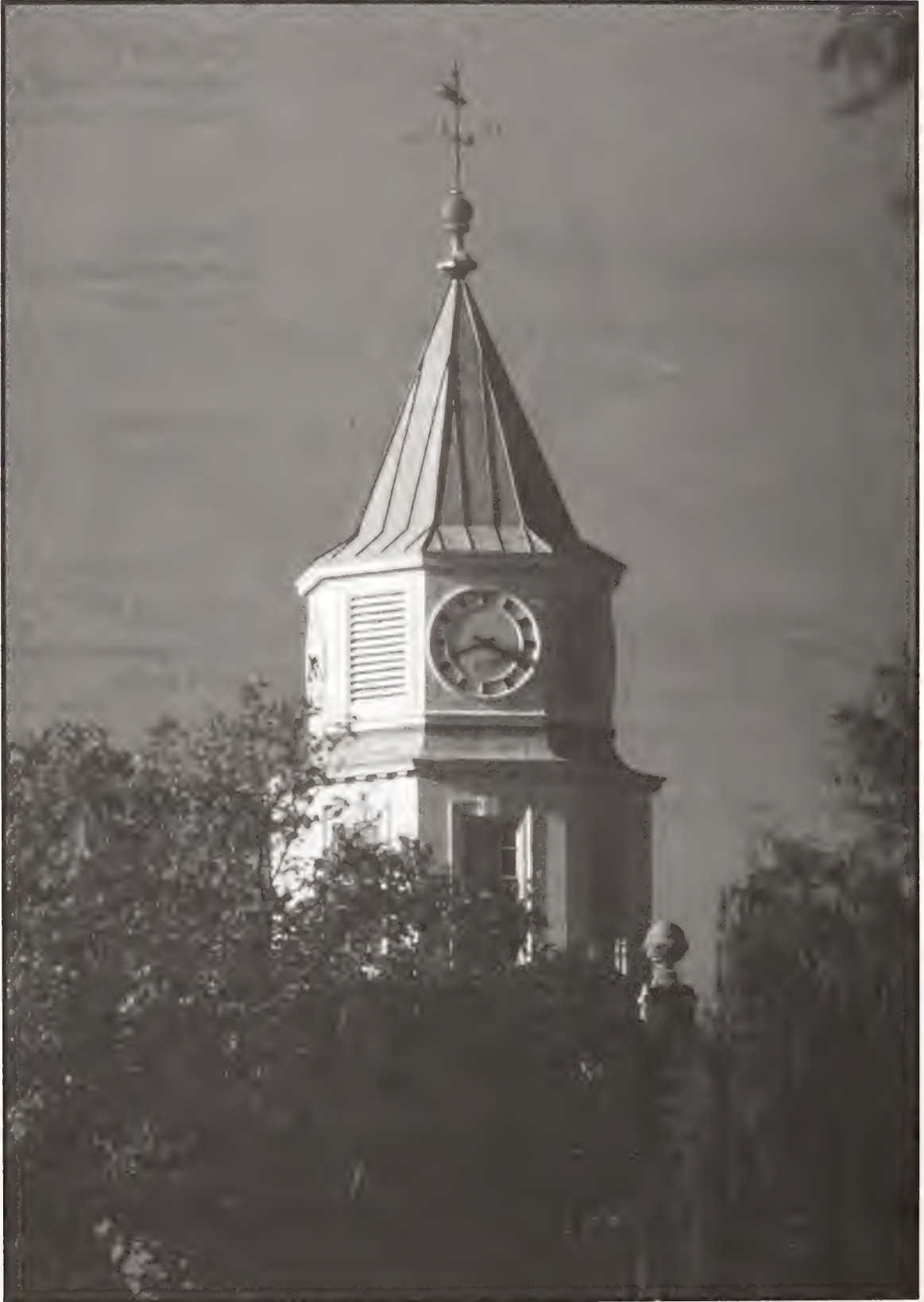
University Policies

For information or concerns pertaining to this catalog, contact Patricia Covington, editor, or Georgia White at the Office of Admissions and Records, Southern Illinois University Carbondale, Carbondale, IL, 62901. For access to the Undergraduate Catalog on the World Wide Web visit: <<http://www.siu.edu/oar>>.

Published by Admission and Records, Southern Illinois University Carbondale.

Photography: University Photocommunications

Cover: Silkworm, Inc. Murphysboro, IL.



1 / General Information



The University

Southern Illinois University

Southern Illinois University is a multicampus university comprising two institutions, Southern Illinois University Carbondale (SIUC) with a School of Medicine at Springfield and a campus in Niigata, Japan, and Southern Illinois University Edwardsville (SIUE) with a School of Dental Medicine at Alton and a center in East St. Louis. Southern Illinois University, with an annual operating budget of more than \$513 million, enrolls more than 34,000 students in programs from two-year technical curricula to Ph.D. programs in 27 fields along with law, medicine and dental medicine. SIU was chartered in 1869 as Southern Illinois Normal University, a teachers' college. In 1947, the name was changed to Southern Illinois University, reflecting the institution's academic expansion. Southern Illinois University also expanded geographically. As early as 1949, SIU began offering off-campus academic courses in the metropolitan East St. Louis area, which led to the eventual development of a separate institution in Edwardsville.

A modern and comprehensive post-secondary educational institution, Southern Illinois University offers a broad range of academic programs that lead to associate, baccalaureate, master's, specialist's, doctoral, and professional degrees.

The instructional, research, and service missions of the two constituent institutions reflect the needs of the geographic areas in which they are located. Southern Illinois University also is committed to serving statewide, national, and international needs. This commitment is reflected in educational activities located off the main campuses in communities throughout the state. It is realized also through research and training exchanges and through world-wide student exchange programs.

A nine-member Board of Trustees governs Southern Illinois University and sets policy that enables it to carry out its established missions and goals. The president of Southern Illinois University is its chief executive officer and reports to the Board of Trustees. The chancellors report directly to the president and are responsible for the internal operations of SIUE and SIUC.

Southern Illinois University Carbondale

Southern Illinois University Carbondale has taken pride in the quality of its services since its doors were first opened in 1869. Outstanding departments, distinguished faculty, thorough and inspired teaching, and a thoughtful approach to the blending of old wisdom with new knowledge, as well as student services from admission to placement, combine with the University's enviable location to provide a rewarding educational experience.

Every member of the University faculty is a student as well as a teacher bringing the products of research and scholarship into the classroom. The University has many distinguished scholars on its faculty honored by their peers for important contributions to the fields they study. Contact with these hard-working educators offers students the best possible entry into the world of today where ideas and technology mesh. As students progress in their studies they will work along with faculty members and may eventually be able to participate in ongoing research projects or set up projects of their own. Other courses may lead to internships or practicum work on campus or in the area around the University.

Morris Library, a major resource for students and faculty, contains 2,000,000 volumes, 2,600,000 units of microform, and about 13,000 periodical subscriptions. These materials are in open stacks, available to every student. There are also important collections of original research materials, as well as support services such as a map li-

brary, records and tapes, and a self-instruction center. Many disciplines require laboratories; some are the traditional variety and some are in orchards, barns, hangars, machine shops, sound chambers, computer labs, archaeological digs, sewing rooms, kindergartens, and clinics.

The University offers a great variety of services to students. The Office of Admissions and Records audits students' progress and maintains records from entrance to graduation. Financial experts, wise in the field of money for education, work tirelessly to find the right combination of loans, grants, and on- and off-campus employment to keep each student in school. Residence halls are available on campus as are furnished and unfurnished apartments for families. Approved housing for freshmen and sophomores is monitored by the University, and those seeking other housing in Carbondale and the surrounding area have access to advice from housing staff. Counseling services are ready to help students deal with scholastic, family, emotional, medical, legal, or financial problems.

The University provides an aggressive placement program on a number of levels. University Career Services presents career fairs and regular visits by recruiters from large employers. Career counselors are ready to work with students from the time of their enrollment. Seminars and workshops are conducted regularly and a career library is maintained. Some schools and departments have highly successful recruitment programs of their own. Placement services do not stop at graduation — the University keeps a current placement file for every interested graduate, and Alumni Services offers referral assistance.

Carbondale, an economic center of southern Illinois, has been cited in a recent study as one of the fifty most desirable places to live in the United States. Only a few hours from Chicago, St. Louis, and Memphis, the University sits amid rolling hills, farmlands, and orchards just 60 miles above the confluence of the Mississippi and Ohio rivers. Glaciation deposits of rock have left the area from Carbondale south ruggedly scenic and suitable for a wide range of outdoor activities. Four large recreational lakes are within minutes of the campus; the two great rivers, the spectacular 240,000-acre Shawnee National Forest, and a large number of smaller lakes, state parks, and recreational areas are within easy driving distance. The Mid-South climate is ideal for year-around outdoor activities — even a little cross-country skiing now and then. The campus itself is a marvel of landscaping, planted with native trees and shrubs and blooming flora.

Activities on campus are equally inviting. There are more than 300 student organizations — special interest, political, Greek, religious, service — intramurals from baseball to ultimate frisbee, a recreational lake on campus, nine intercollegiate sports programs for women and nine for men, and great varieties of diverting entertainment. A large indoor recreational center contains an olympic-sized pool, weight rooms, game courts of all kinds, diet and exercise programs, instruction, and equipment that can be checked out for outdoor recreation.

At this modern university in a rural setting one can benefit from the best of both worlds — the scenic wonders, the small-town friendliness, the easy access to all the area has to offer, and the resources of a sophisticated faculty and staff with the latest in technological marvels at its command. A Consumer's Report that addresses specific information about the University is available by writing New Student Admissions Services.

Mission Statement

Southern Illinois University Carbondale, now in its second century, is a major public higher education institution dedicated to quality academic endeavors in teaching and research, to supportive programming for student needs and development, to effective social and economic initiatives in community, regional, and statewide contexts, and to affirmative action and equal opportunity.

Enrolling students throughout Illinois and the United States and from a large number of foreign countries, SIUC actively promotes the intellectual and social benefits of cultural pluralism, encourages the participation of non-traditional groups, and intentionally provides a cosmopolitan and general education context which expands students' horizons and leads to superior undergraduate education.

Seeking to meet educational, vocational, social and personal needs of its diverse population of students and helping them fully realize their potential is a central purpose of the University. Emphasis on accessibility and regional service which creates distinctive instructional, research and public service programs also gives SIUC its special character among the nation's research universities, and underlies other academic developments, such as its extensive doctoral program and the schools of medicine and law.

Committed to the concept that research and creative activity are inherently valuable, the University supports intellectual exploration at advanced levels in traditional disciplines and in numerous specialized research undertakings, some of which are related directly to the southern Illinois region. Research directions are evolved from staff and faculty strengths, and mature in keeping with long-term preparation and planning.

Even as the University constantly strives to perpetuate high quality in both instruction and research, it continues a long tradition of service to its community and region. Its unusual strengths in the creative and performing arts provide wide-ranging educational, entertainment and cultural opportunities for its students, faculty, staff, and the public at large. Its programs of public service and its involvement in the civic and social development of the region are manifestations of a general commitment to enhance the quality of life through the exercise of academic skills and application of problem-solving techniques. The University seeks to help solve social, economic, educational, scientific, and technological problems, and thereby to improve the well being of those whose lives come into contact with it.

Focus Statement

Southern Illinois University Carbondale offers a full range of baccalaureate programs, is committed to graduate education through the doctoral degree, and gives high priority to research. It receives substantial federal support for research and development and annually awards a significant number of doctoral degrees balanced among selected liberal arts and sciences disciplines and professional programs. In addition to pursuing statewide goals and priorities, Southern Illinois University Carbondale:

- strives to develop the professional, social, and leadership skills expected of college students and to improve student retention and achievement;
- supports the economic, social, and cultural development of southern Illinois through appropriate undergraduate, graduate, and professional education and research;
- develops partnerships with communities, businesses, and other colleges and universities, and develops utilization of telecommunications technologies;
- cultivates and sustains a commitment in research and instruction to problems and policy issues related to the region and the state's natural resources and environment;
- strives to meet the health care needs of central and southern Illinois through appropriate health-related programs, services, and public health policy; and
- cultivates and sustains diversity through a commitment to multiculturalism, including international programming.

Accreditations and Affiliations¹

North Central Association of Colleges and Schools	Illinois Alcohol and Other Drug Abuse Association, Inc.
Accrediting Council on Education in Journalism and Mass Communication	Illinois State Board of Education
American Association for Accreditation of Laboratory Animal Care	Joint Review Committee for Respiratory Therapy Education
American Association of Airport Executives	Joint Review Committee on Education in Radiologic Technology Education
American Association of Museums	Liaison Committee on Medical Education of the American Medical Association and Association of American Medical Colleges
American Bar Association	National Academy of Early Childhood Programs sponsored by the National Association for the Education of Young Children
American Board of Funeral Service Education	National Association of Industrial Technology
American Chemical Society	National Association of Schools of Art and Design
American Library Association	National Association of Schools of Music
American Psychological Association	National Association of Schools of Public Affairs and Administration
American Speech-Language-Hearing Association, Educational Standards Board	National Association of Schools of Theatre (NAST)
Association of American Law Schools	National Athletic Trainers Association
Association of American Publishers	National Automotive Technicians Education Foundation
Association of American University Presses	National Collegiate Honors Council
Association of 1983 Collegiate Schools of Architecture	National Council for Accreditation of Teacher Education
Commission on Accreditation of Allied Health Education Programs (CAAHEP)	National Court Reporters Association
Commission on Accreditation in Physical Therapy Education	National Fire Protection Association
Commission on Accreditation of Rehabilitation Institutes	National Institute for Automotive Service Excellence
Commission on Dental Accreditation of the American Dental Association	National Recreation and Parks Association
Connecticut State Board of Education	Photo/Marketing Association International
Council for Accreditation for Counseling and Related Educational Programs	Servicemembers Opportunity Colleges
Council on International Education Exchange	Society of American Foresters
Council on Rehabilitation Education	The International Association for Management Education
Council on Social Work Education	University Aviation Association, Airway Science Curriculum Committee
Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology	University Council for Vocational Education
Federal Aviation Administration	Upper Midwest Honors Council
Federation of Schools of Accountancy	
Foundation for Interior Design Education Research (FIDER)	
Honors Council of the Illinois Region	
House of Delegates of the American Bar Association	

¹To determine the agency which accredits a specific program, consult the information on that program in this catalog.

Faculty

The University faculty is dedicated to excellence in teaching and to the advancement of knowledge in a wide variety of disciplines and professions. Many faculty members are well known both nationally and internationally for their many varied research contributions. The Undergraduate Catalog lists the numerous programs offered by the faculty and, in addition, in Chapter 8 of this catalog the faculty members are listed by departments in which they are appointed.

Undergraduate Curricula

The undergraduate majors and minors offered by Southern Illinois University Carbondale are listed below in alphabetical order. Also indicated is whether a major, a minor, or both are offered. The academic unit which offers the major is listed as is the degree the student would expect to receive upon graduation. If a major may be completed in more than one academic unit, the other units are listed on additional lines.

For example, the biological sciences major is offered through the College of Science. Students planning to teach biological sciences may also complete the major in the College of Education. The requirements for each of the programs listed below are explained in Chapter 4 of this bulletin. The degree abbreviations used are: A.A.S., Associate in Applied Science; B.A., Bachelor of Arts; B.F.A., Bachelor of Fine Arts; B.Mus., Bachelor of Music; B.S., Bachelor of Science.

In addition to the majors and minors listed, preprofessional programs may be completed in dentistry, law, medicine, nursing, optometry, pharmacy, physical therapy, physician assistant, podiatry, public health, and veterinary science.

SUBJECT	MAJOR	MINOR	COLLEGE	DEGREE
Accounting	X	X	College of Business and Administration	B.S.
Administration of Justice	X	X	College of Liberal Arts	B.A.
Advanced Technical Studies	X		College of Applied Sciences and Arts	B.S.
Aerospace Studies		X		
African Studies		X	College of Liberal Arts	
Aging Studies		X	College of Liberal Arts	
Agribusiness Economics	X	X	College of Agriculture	B.S.
Agriculture, General	X	X	College of Agriculture	B.S.
Animal Science	X	X	College of Agriculture	B.S.
Anthropology	X	X	College of Liberal Arts	B.A.
Aquatics ²		X	College of Education	
Architectural Studies	X		College of Applied Sciences and Arts	B.S.
Army Military Science		X		
Art	X	X	College of Liberal Arts	B.A., B.F.A.
	X		College of Education	B.S.
Asian Studies		X	College of Liberal Arts	
Athletic Training ²		X	College of Education	
Automotive Technology ⁶	X		College of Applied Sciences and Arts	A.A.S. B.S.
Aviation Flight ⁶	X		College of Applied Sciences and Arts	A.A.S.
Aviation Maintenance Technology ⁶	X		College of Applied Sciences and Arts	A.A.S.
Aviation Management	X		College of Applied Sciences and Arts	B.S.
Aviation Technologies	X		College of Applied Sciences and Arts	B.S.
Biological Sciences	X	X	College of Science	B.A.
	X		College of Education	B.S.
Black American Studies		X	College of Liberal Arts	
Business and Administration	X	X	College of Business and Administration	B.S.
Business Economics	X		College of Business and Administration	B.S.
Chemistry	X	X	College of Science	B.A., B.S.
Child and Family Services ³		X	College of Education	
Chinese ¹		X	College of Liberal Arts	

SUBJECT	MAJOR	MINOR	COLLEGE	DEGREE
Cinema and Photography	X		College of Mass Communication and Media Arts	B.A.
Civil Engineering	X		College of Engineering	B.S.
Classical Civilization ¹		X	College of Liberal Arts	
Classics ¹	X		College of Liberal Arts	B.A.
Clothing and Textiles ⁴	X	X	College of Education	B.S.
Coaching ²		X	College of Education	
Communication Disorders and Sciences	X		College of Education	B.S.
Comparative Literature		X	College of Liberal Arts	
Computer Science	X	X	College of Science	B.S., B.A.
Construction Technology ⁶	X		College of Applied Sciences and Arts	A.A.S.
Dental Hygiene ⁶	X		College of Applied Sciences and Arts	B.S.
Dental Technology ⁶	X		College of Applied Sciences and Arts	A.A.S.
Design	X		College of Liberal Arts	B.A., B.F.A.
Early Childhood ³	X		College of Education	B.S.
East Asian Civilization ¹		X	College of Liberal Arts	
Economics	X	X	College of Liberal Arts	B.A.
Electrical Engineering	X		College of Engineering	B.S.
Electronics Management	X		College of Applied Sciences and Arts	B.S.
Elementary Education ³	X		College of Education	B.S.
Engineering Technology	X		College of Engineering	B.S.
English	X	X	College of Liberal Arts	B.A.
			College of Education	B.S.
Environmental Studies		X	Graduate School	
Equine Studies ⁵		X	College of Agriculture	
Finance	X	X	College of Business and Administration	B.S.
Fire Science Management	X		College of Applied Sciences and Arts	B.S.
Food and Nutrition	X		College of Agriculture	B.S.
Foreign Language and International Trade	X		College of Liberal Arts	B.A.
Forestry	X		College of Agriculture	B.S.
French ¹	X	X	College of Liberal Arts	B.A.
	X		College of Education	B.S.
Geography	X	X	College of Liberal Arts	B.A., B.S.
Geology	X	X	College of Science	B.A., B.S.
German ¹	X	X	College of Liberal Arts	B.A.
	X		College of Education	B.S.
Greek ¹		X	College of Liberal Arts	
Health Care Management	X		College of Applied Sciences and Arts	B.S.
Health Education	X		College of Education	B.S.
History	X	X	College of Liberal Arts	B.A.
	X		College of Education	B.S.
Industrial Technology	X		College of Engineering	B.S.

SUBJECT	MAJOR	MINOR	COLLEGE	DEGREE
Information Systems Technologies	X		College of Applied Sciences and Arts	B.S.
Interior Design	X		College of Applied Sciences and Arts	B.S.
Japanese ¹		X	College of Liberal Arts	
Journalism	X	X	College of Mass Comm and Media Arts	B.S.
Latin ¹		X	College of Liberal Arts	
Linguistics	X	X	College of Liberal Arts	B.A.
Management	X	X	College of Business and Administration	B.S.
Marketing	X	X	College of Business and Administration	B.S.
Mathematics	X	X	College of Science	B.S.
	X		College of Liberal Arts	B.A.
	X		College of Education	B.S.
Mechanical Engineering	X		College of Engineering	B.S.
Microbiology	X	X	College of Science	B.A.
Mining Engineering	X		College of Engineering	B.S.
Mortuary Science and Funeral Service ⁶	X		College of Applied Sciences and Arts	B.S.
Museum Studies		X	College of Liberal Arts	
Music	X	X	College of Liberal Arts	B.Mus., B.A.
			College of Education	B.S.
Office Systems and Specialties ⁶	X	X	College of Applied Sciences and Arts	A.A.S.
Paralegal Studies for Legal Assistants	X	X	College of Liberal Arts	B.S.
Philosophy	X	X	College of Liberal Arts	B.A.
Physical Education	X	X	College of Education	B.S.
Physical Therapist Assistant ⁶	X		College of Applied Sciences and Arts	A.A.S.
Physician Assistant	X		College of Applied Sciences and Arts	B.S.
Physics	X	X	College of Science	B.S.
Physiology	X	X	College of Science	B.A.
Plant and Soil Science	X	X	College of Agriculture	B.S.
Plant Biology	X	X	College of Science	B.A.
Political Science	X	X	College of Liberal Arts	B.A.
Psychology	X	X	College of Liberal Arts	B.A.
Radio-Television	X		College of Mass Comm and Media Arts	B.A.
Radiologic Sciences	X		College of Applied Sciences and Arts	B.S.
Recreation	X		College of Education	B.S.
Rehabilitation Services	X		College of Education	B.S.
Respiratory Therapy Technology ⁶	X		College of Applied Sciences and Arts	A.A.S.
Russian ¹	X	X	College of Liberal Arts	B.A.
Social Studies	X		College of Education	B.S.
Social Work	X		College of Education	B.S.
Sociology	X	X	College of Liberal Arts	B.A.

SUBJECT	MAJOR	MINOR	COLLEGE	DEGREE
Spanish ¹	X	X	College of Liberal Arts	B.A.
	X		College of Education	B.S.
Special Education	X		College of Education	B.S.
Speech Communication	X		College of Liberal Arts	B.S.
Theater	X	X	College of Liberal Arts	B.A.
University Studies	X		College of Liberal Arts	B.A., B.S.
Women's Studies		X		
Workforce Education and Development	X	X	College of Education	B.S.
Zoology	X	X	College of Science	B.A., B.S.

¹Described under Foreign Languages and Literatures

²Described under Physical Education

³Described under Curriculum and Instruction

⁴Described under Workforce Education and Development

⁵Described under Animal Science

⁶Qualified A.A.S. graduates may be eligible to earn a B.S. degree through the Capstone Option. See Chapter 3 for additional information.

Campus Visitors

We welcome prospective students, their families, friends, and interested groups to learn about Southern Illinois University Carbondale through various on-campus and off-campus events. Activities on campus include campus visits, group visit days, on campus previews, and open houses. SIUC off-campus preview programs are held in several locations around Illinois each spring.

Campus Visits. Campus visitors are available by appointment Monday through Friday, 8:00 a.m. to 4:30 p.m. To make best use of the visit, plan to arrive early. Please make your reservations at least ten days in advance. Your scheduled visit can include meeting with one of SIUC's admission counselors who will advise you about academic programs, student services, admission policies and procedures, housing options, financial aid, and general information about the University and community. Guided tours of the campus are available. Appointments with representatives of academic programs can also be arranged with advance notice. Campus visitors arriving without providing advance notice will be accommodated to the best of our abilities considering the circumstances.

Group Visits. Group visit days are, quite simply, campus visits by groups of people. The same arrangements are available and advance reservation is required.

Open Houses. Open house programs are held on campus four or five times each year. Activities include admission counseling; academic program exhibits; displays by student organizations; presentations on financial aid, housing, and other student services; tours of residence halls; campus and academic department tours; and opportunities to enjoy other events or activities.

SIUC Previews. SIUC preview programs are events held on-campus and at off-campus locations to bring SIUC within easy traveling distance of many Illinois communities. Activities include admission counseling, small-group and individual sessions on financial aid, a dynamic audio-visual presentation entitled *SIUC: Today*, consultation about University housing, and information displays.

To schedule a campus visit or group visit to campus, or for information about scheduled on-campus open house and preview programs, write New Student Admissions mailcode 4710, Southern Illinois University Carbondale, Illinois 62901-4710 or call 618-536-4405. In addition, you can visit our Home Page at <<http://www.siu.edu/siuc/>> and view the section for "prospective students" and then the section on "special events."

Applying for Admission

Request the Undergraduate Admission Application from New Student Admissions, mailcode 4710, Southern Illinois University Carbondale, Carbondale, Illinois 62901-4710, or call 618-536-4405 (direct), or Email to admrec@siu.edu or view our home page at <http://www.siu.edu/siuc/> and the "prospective student" section. You can submit the undergraduate admission application electronically. For admission requirements see Chapter 2.

Campus Living

On-Campus Housing for Single Students

The University offers single students a variety of living experiences in the on-campus residence halls. These halls provide not only room and board but also opportunities for participation in academic, recreational and social programs. Two distinct advantages of living on campus are the ready access to all facilities and the absence of a need for special transportation since all campus activities are within easy walking distance. Meals are provided in each housing area. A variety of meal plans are available: carry out, continuous serve and late-night fast food service are available in addition to traditional all-you-can-eat meals. A registered dietitian plans the menus and is available to assist students who have medical or personal dietary concerns or who desire nutritional counseling. Co-ed living is available in all housing areas. All rooms are furnished with single beds, 36 inches by 80 inches, closet space, chests of drawers, desks, study chairs, and draperies. Study lamps, pillows, bed linen, towels, blankets and telephone instruments must be provided by the students. Telephone jacks and cable TV outlets are provided in each room. Housing contracts are for the school year (fall and spring semesters) with summer contracts being issued separately. The residence halls close during University holidays and break periods, with the exception of Allen, Boomer, Wright and Neely Halls in University Park which are open during all breaks at an additional daily cost.

SIUC student housing policy stipulates that all single freshman and sophomores under the age of 21 are required to live either in an on-campus residence hall or an approved privately-owned residence hall (known as an accepted living center), or live at home with parent or legal guardian. The accepted living centers for freshman under the age of 21 provide food service and supervision comparable to that in on-campus housing. Sophomores are also allowed to live in some privately owned sophomore qualified facilities.

Freshmen and sophomores under the age of 21, living with parent or legal guardian, are required to file a *Report of Single Undergraduate Living with Parent/Guardian* form with the off-campus housing office. These students are also allowed to live with an approved brother/sister/grandparent, but certain forms must be filed with off-campus housing. Contact off-campus housing for more information. This policy is enforced in fall and spring semesters and the summer session. Any students who feel that they qualify for an exception to this policy must contact the Off Campus Housing Office, Washington Square D. Students in violation of this policy will have a hold placed on their future registration and will be required to move into approved housing.

There are no restrictions for juniors (56 earned semester hours accepted by SIUC), seniors, students over the age of 21, veterans, married students, or students declared independent by the Financial Aid Office.

Housing contracts are offered to admitted students on a space available basis only. Admission to the University does not guarantee housing on campus.

Rates. The 1999-2000 room and board rates for the three on-campus residential areas are \$3,872 (\$1,936 per semester) plus a \$17 campus housing activity fee. Single room

contracts are an additional \$1,128 (\$564 per semester). Students entering for fall semester must purchase a two-semester contract.

Brush Towers. Brush Towers consists of two 17-story, air-conditioned halls, Mae Smith and Schneider Halls. The commons unit is Grinnell Hall which houses the dining hall, pizzeria, post office, and area office. There is a large study area and computer lab located on the lower level of Trueblood Hall in nearby University Park. This facility is available to Brush Towers residents. The facility offers terminals which provide access to the University's mainframe computer as well as a number of personal computers. All are available for use free of charge.

Thompson Point. Thompson Point consists of eleven air-conditioned halls. Lentz Hall serves as the commons unit for the dining hall, post office, deli and recreation areas. Included in the Thompson Point residential area are special facilities for disabled students. There is a study area and computer lab located on the lower level of Lentz Hall. This facility offers terminals which provide access to the University's mainframe computer as well as a number of personal computers. All are available for use free of charge.

University Park. The University Park residential area is air-conditioned and consists of Neely Hall, a 17-story residence hall; and Allen, Boomer, and Wright Halls, four-story residence halls. A limited number of single rooms are available in Neely, Allen, Boomer and Wright Halls and these buildings remain open during all University holidays and break periods. Neely Hall is restricted to students 21 years of age or older. Trueblood Hall is the commons unit housing the dining hall, coffee house, area office and post office. There is a large study area and computer lab located on the lower level of Trueblood Hall. The facility offers terminals which provide access to the University's mainframe computer as well as a number of personal computers. All are available for use free of charge.

More information regarding on-campus housing may be obtained by writing the Contracts Office, University Housing, Building D, Washington Square, Carbondale, IL 62901-6716. The fax number is (618) 453-2090.

Greek Row. The Greek Row area provides housing for sororities and fraternities. Each building houses about forty students and includes a formal lounge, dining area, and kitchen. Assignment of students to this area is by invitation from the fraternal organization. For more information, contact the Office of Student Development, Southern Illinois University Carbondale, Carbondale, IL 62901-4425.

Housing for Married Students

There are 571 apartments, both furnished and unfurnished, available for married students, single parents and graduate students. The costs range from \$342 to \$396 per month with utilities or \$326 to \$353 per month with tenant paying electricity. For more information or application forms write: Contracts Office, University Housing, Building D, Washington Square, Southern Illinois University Carbondale, Carbondale, IL 62901-6716. The fax number is (618) 453-2090.

Privately Owned Facilities

Carbondale offers many types of rental units: rooming houses, apartments, residence halls, and mobile homes. Most privately owned facilities are within walking distance of the campus. For more information about privately owned housing and accepted living centers for freshman and sophomores, please write or call: University Housing Office, Off-Campus Housing Division, Building D, Washington Square, Southern Illinois University Carbondale, Carbondale, IL 62901-6716, phone 618-453-2301. It is recommended that you tour any facility prior to signing a contract.

Parking on Campus

Students wishing to operate and/or park a motor vehicle on campus must apply for a parking decal at the Parking Division located at Washington Square, Building B.

Graduate students and the following categories of undergraduate students may apply for permission to use, operate, park or possess a motor vehicle on campus: (1) Juniors and seniors (with proof of 56 credit hours or more completed); (2) Students 21 years of age; (3) Veterans with two years of military service; (4) Married students; (5) Students residing in the home of a parent or guardian; (6) Students requiring a motor vehicle for reasons of health or physical condition as certified in writing by Disability Support Services; and (7) Freshman and sophomore students may bring cars to Carbondale but must contact the City of Carbondale Parking Division to arrange for parking or apply for an exception to obtain a green storage permit from the Office of University Housing.

To purchase a decal at the Parking Division, an eligible student must present a student identification card, a valid operator's license, vehicle registration card, and proof of liability insurance which must be maintained for the duration of the parking decal. Students residing on campus must also present a housing contract or a meal ticket. If a parking decal is purchased, a fee is charged. This fee is determined by the type of decal an applicant is eligible for and receives. Currently student parking fees range from free to \$30.

To accommodate unregistered vehicles, twenty-four hour parking is available for the first five days of any term and during final exam week of any term only in lots 56, 59 and 100.

Exceptions to Motor Vehicle Regulations

Regulations concerning the use of motor vehicles require that a student has achieved junior status, be 21 years of age, married, a veteran or hold graduate status. Exceptions are made only on a limited basis. Freshman and sophomore students should contact the Office of University Housing or The Parking Division for details on bringing a car on campus.

Financial Aid

The Financial Aid Office assists students in seeking monetary assistance to finance their postsecondary education at Southern Illinois University Carbondale. Last year Southern Illinois University Carbondale distributed over \$127 million in financial aid to more than 20,215 students.

A package of financial aid is prepared for those students who qualify. The package may include scholarships, grants, student employment and loans. The financial aid package offered is contingent upon both the availability of program funds and each student's demonstrated financial need, as determined from the free application for Federal Student Aid (FAFSA).

Grants and scholarships are gift aid which are not repaid to the donor. Loans must be repaid. Interest and repayment provisions differ depending on the loan program. Student employment is earned by students who seek and acquire an on-campus job.

Financial Aid Programs

The University participates in the federal, state, and institutionally-funded financial aid programs including Federal Pell Program, State of Illinois Monetary Award Program (MAP)¹, Federal Direct Student Loan Program, Federal Perkins Loan Program, Student-to-Student Program, Federal Supplemental Educational Opportunity Program, ROTC Scholarships - State and Federal, and the Student Employment Program.

The *Financial Aid Opportunities* brochure summarizes the types of financial aid coordinated through the Financial Aid Office, the application procedures, and the corresponding deadlines. A copy of the brochure is available upon request from the financial aid office.

Grants. The major federal grant programs include the Federal Pell Grant and the Federal Supplemental Educational Opportunity Grant. The largest state grant is the State of Illinois Monetary Award Program (MAP). These grants are based on financial need as determined from the free application for Federal Student Aid (FAFSA).

Scholarships. Southern Illinois University Carbondale offers scholarships based on scholastic achievement to high school and community college transfer students (associate degree graduates only). These scholarships vary in eligibility requirements and dollar values. For more detailed information about the scholarships, students should contact New Student Admissions at (618) 536-4405.

Recipients of academic scholarships are selected annually by academic units of the University. Also, a limited number of private scholarships are available from each area. More information is available from the appropriate scholarship coordinator in each academic unit.

Students interested in seeking a private grant or scholarship should check as many sources as possible including high schools, local clubs and civic organizations, businesses, church groups, alumni organizations, and commercial lending institutions. Higher-Ednet, a service of the Illinois Student Assistance Commission (ISAC), can locate financial aid sources for a \$10 application fee. Contact ISAC at (800) 899-4722 for more information. In addition, public libraries are an excellent source for information on state and private scholarship money.

Army and Air Force ROTC programs on campus provide both federal and state scholarship opportunities. Some of these scholarships require no military obligation. For information contact: Army ROTC at (618) 453-5786, or Air Force ROTC at 453-2481.

Loans. The largest programs include the Federal Direct Stafford/Ford Loan, the Federal Direct Unsubsidized Stafford/Ford Loan, the Federal Direct Parent Loan for Undergraduate Students (PLUS) and the Federal Perkins Loan. To apply for any student loan, students should complete and mail a 1999-2000 free application for Federal Student Aid (FAFSA). The Federal Direct Stafford/Ford Loan and the Federal Perkins Loan are based on financial need. The Federal Direct Unsubsidized Stafford/Ford Loan is not based on need, but a FAFSA must be completed. The Federal Direct PLUS Loan is available to parents borrowing for the students' cost of attendance.

Employment. More than 8300 students were employed by the University last year. Most student employees work at the prevailing minimum wage for 15 to 20 hours a week. Once students arrive on campus, they should review the job listing board in the Financial Aid Office to determine which jobs interest them. The Financial Aid Office also lists job openings via the Internet on the FAO Home Page of the World Wide Web. A Student Employment Referral will be given to students to interview with prospective on-campus employers.

In addition, information regarding part-time off-campus jobs is available. Many SIUC students choose to work off-campus in Carbondale and the surrounding area.

Application for Financial Aid for the 1999-2000 Academic Year

To apply for financial aid, students, with their parents, should complete and mail a 1999-2000 Free Application for Federal Student Aid (FAFSA) or a 1999-2000 Renewal Application. Completion of a FAFSA or a Renewal Application will allow the student to be considered for the Federal Pell Program, State of Illinois Monetary Award Pro-

gram (Illinois residents only)¹, the SIUC Campus-Based Aid Programs, the Student Employment Program, and the Student Loan Programs.

When completing the FAFSA or Renewal Application, Southern Illinois University Carbondale (Title IV Code 001758) should be entered as one of the school choices so SIUC will electronically receive the application information from the U.S. Department of Education.

Students should complete and mail their FAFSA or Renewal Application as early as possible since campus-based aid funding is limited and distributed to eligible students on a first-come, first-served basis. Priority consideration for campus-based aid will be given to those students who complete and mail the FAFSA April 1, 1999. The FAFSA's are available in December preceding each academic year, and may be obtained from local high schools, community colleges, or from the Financial Aid Office. Renewal Applications are mailed in December preceding each academic year to students who applied for financial aid the previous year.

Senior Citizen Courses Act

Senior citizen as defined under the Act means a person 65 years of age or older whose annual household income is less than \$14,000. The statute requires the University to waive the tuition for such citizens unless classroom space is not available or if tuition paying students enrolled do not constitute the minimum number required for the course. Even though tuition must be waived, other fees may be charged.

Academic Progress Standards for Financial Assistance

The University requires that a student be making satisfactory progress toward a degree if that student wishes to receive financial aid funds. A student is making satisfactory progress toward a degree if successfully meeting each of four basic academic standards. First, students are expected to have passed at least a prescribed number of cumulative credit hours at Southern Illinois University Carbondale for the total number of terms enrolled at Southern Illinois University Carbondale. Second, students must complete their degree within a maximum number of Southern Illinois University Carbondale terms. Third, students must complete their degree before accumulating a maximum number of credit hours. Fourth, students must remain in compliance with the University's policy concerning scholastic standing and grade point average. A copy of the policy on satisfactory progress is available upon request from the Financial Aid Office.

Additional Financial Aid Information

Students desiring additional information should contact the Financial Aid Office, Mailcode 4702, Woody Hall, B Wing, Third Floor, Carbondale, Illinois 62901-4702, telephone 618-453-4334. Students may FAX financial aid documents to 618-453-7305.

Students can contact the Financial Aid Office electronically at the FAO E-mail address: fao@siu.edu. Students can also access financial aid information through the FAO Home Page on the World Wide Web <<http://www.siu.edu/~fao/>> or obtain voice/response information about their financial aid by calling Unilink at (618) 453-SIUC. The student's four digit Pin number is their birthday and birth year (DDYY). Specific financial aid information can also be obtained via the Internet on the FAO Home Page.

Note: At the time of printing this publication, final rules and regulations for the 1999-2000 academic school year were pending. Therefore, students should contact the Financial Aid Office for the most recent information.

¹Illinois Incentive for Access (11A) Program.

2 / Admissions, Tuition and Academic Information



Admission Policies, Requirements, Procedures

Now that you have decided you want to attend SIUC you need to know how to apply for undergraduate admission. Policies and procedures for admission are presented in the admissions section of this chapter. Definitions of each category of admissions are included along with procedures that you will need to follow to complete your undergraduate admission application.

APPLYING FOR ADMISSION

You need to request the undergraduate admission application from New Student Admissions, Mailcode 4710, Southern Illinois University Carbondale, Carbondale, Illinois, 62901-4710 or call 618-536-4405. You can also submit the Undergraduate Admission Application electronically at <<http://www.siu.edu/siuc/>>.

Applications for admission to the University are accepted anytime during the calendar year but should be submitted at least thirty days prior to the beginning of classes in order to permit the processing and notification through the mail.

The University closes admission to some programs whenever the availability of faculty or facilities necessitates such closures. The University also stops accepting admission applications from freshman whenever the availability of the University resources dictates this action.

If you are a high school student, you may initiate the admission application process at anytime while in high school. If you are a transfer student you can be considered for any future term. Transfer students who intend to transfer to Southern Illinois University Carbondale before completing one year of study may be admitted prior to completing their transfer work if they qualified for admission as beginning freshmen.

DOCUMENTS REQUIRED FOR ADMISSION

Items required by the University before an admission decision can be made are:

1. **The undergraduate admission application.**
2. **Transcripts of previous educational experience.** High school students should submit an official copy of their high school transcript or General Educational Development (G.E.D.) Test scores. Transfer students must submit to the Office of Admissions and Records an official transcript from each institution previously attended. In addition, transfer students who have earned fewer than 26 semester hours (39 quarter hours) of transfer work must provide the University an official copy of their high school transcript or General Educational Development Test scores. Transfer students who have attended an institution whose credit is not acceptable for admission must also submit an official copy of their high school transcript and ACT or SAT scores.
3. **University entrance examination scores.** All students who are applying for admission directly from high school and all transfer students who have completed fewer than 26 semester hours (39 quarter hours) must have their official ACT scores sent to the University from ACT, Inc., Box 451, Iowa City, Iowa 52240, or their official SAT scores sent to the university from the College Board SAT Program, PO Box 6200, Princeton, New Jersey 08541.

NOTE: Also see Immunization Policy in Chapter 7.

PROGRAMS REQUIRING ADDITIONAL MATERIALS OR SCREENING

In addition to the undergraduate admission application and the required educational records, some programs require applicants to submit other materials. These programs are: aviation flight, dental hygiene, mortuary science and funeral service, physical therapist assistant, physician assistant and radiologic sciences. After applicants to these programs have been admitted to the University, they will receive information and instructions from the academic department that administers their intended major.

The following majors require that students be screened beyond the regular SIUC admission requirements before entering directly into the programs: advanced technical studies, anthropology, architectural studies, athletic training, aviation flight, aviation management, dental hygiene, fire science management, foreign language and international trade, health care management, mortuary science and funeral service, physical therapist assistant, physician assistant, radio-television, radiologic sciences, recreation, respiratory therapy technology, social work and all teacher education programs.

In most cases, students may apply for any major in any term. However, a few majors at SIUC permit new students to enter in the fall semester only. They are: architectural studies, dental hygiene, physical therapist assistant and radiologic sciences. For transfer students, admission to architectural studies in spring or summer will be considered individually.

Some programs offer major courses beginning in the fall only, but will permit students to begin in the spring and summer terms to take non-major courses. These programs are: construction technology, dental technology, respiratory therapy technology, and mortuary science and funeral service.

ADMISSION OF FRESHMEN

To be eligible for admission, you must be a graduate of a recognized high school. Graduates of nonrecognized high schools may be admitted to the University by submitting an acceptable entrance examination score. If you have not completed high school you may be considered for admission by passing the GED test.

Students entering the University as freshmen are admitted to the academic unit within the University that offers the academic program they indicate they plan to pursue if the student qualifies for admission into that program. Students who are in the process of deciding on the course of study they want to follow are admitted as a Pre-Major student or to selected other academic units with an undecided major.

Students who are admitted as beginning freshmen but enroll at another college or university prior to their enrollment at Southern Illinois University Carbondale may face a change in their admission status. It will be necessary for the student to report work in progress and to forward the official transcripts after completion of the coursework.

Beginning freshmen are considered for admission on the basis of a combination of class rank and test scores (ACT or SAT). In addition, students entering the University are required to have completed selected high school courses to qualify for unconditional admission. All students granted admission while in high school are required to graduate from high school. Also see High School Course Pattern Requirements below.

High School Course Pattern Requirements. This policy applies to beginning freshman and transfer students who have completed fewer than twenty-six semester hours of transferable credit.

HIGH SCHOOL COURSE REQUIREMENTS FOR ADMISSION

Course	Required Units	High School Courses That Complete the Area
English	4	Emphasizing written and oral communication and literature
Social Studies	3	Emphasizing history, government, sociology, psychology, geography, etc.
Mathematics	3	Algebra through advanced algebra, geometry, trigonometry, or fundamentals of computer programming. Computer programming courses taught in the secondary school business education program or that do not have mathematics courses as a prerequisite are accepted as vocational education courses.

Course	Required Units	High School Courses That Complete the Area
Science	3	Laboratory sciences.
Electives.....	2	Foreign language, art, music, or vocational education. If a foreign language is taken, it must include two semesters of the same language.
<hr/>		
Total	15 - 15.5	

High school units in excess of the required number of units in mathematics, social studies or science may be redistributed among the other categories by applying no more than one unit to any of the following categories: mathematics, social studies, science, or elective. Elective subjects cannot be substituted for required courses in English, mathematics, science or social sciences. A prospective student with two or more deficiencies in English or mathematics may be subject to denial.

Beginning freshmen may satisfy a course pattern deficiency by achieving a subscore on the ACT which is equivalent to the sixtieth percentile on the College Bound Norms. The Enhanced ACT subscores required to satisfy a course deficiency on the ACT tests are: English 21; Mathematics 21; Reading 22; and Science Reasoning 22. Deficiencies may also be fulfilled by CLEP scores or AP scores that qualify the student for credit. The tests must be in the area that is deficient.

Students who have course pattern deficiencies but qualify for admission based on class rank, test scores and transfer grade point average, will be admitted to the University on the condition that deficiencies will be satisfied through the academic advisement process.

Selected applicants are exempt from the high school subject requirements. These include students whose class rank and ACT test scores are at the seventy-fifth percentile (a composite score of 23 on the ACT), participants in the high school / concurrent enrollment program until the time of their high school graduation, and transfer students who have earned twenty-six semester hours of transferable credit.

REQUIREMENTS FOR ADMISSION OF FRESHMAN

Freshman admission to the University can be granted in one of three ways:

1. an entrance examination score at the fiftieth percentile or higher, regardless of class rank. This would be a composite score of 20 on the Enhanced ACT, or an SAT I combined score of 930.
2. an ACT score at the thirty-third percentile or higher (a composite score of 18 on the ACT or an SAT I combined score of 850) and class rank in the upper half of your graduating class, or
3. the non-high school graduate who has satisfactorily completed the General Education Development Test and achieved an entrance examination score above the thirty-third percentile. (ACT of 18 or SAT I of 850).

In addition, students must meet the course pattern requirements described above for unconditional admission. Those students who meet class rank and/or test score requirements, but have course pattern deficiencies, will be granted admission on the condition that deficiencies will be satisfied through the academic advisement process.

Potential freshman who do not meet the admission requirements above are urged to submit applications for admission to the University. If you demonstrate potential for academic success, you may be considered for admission through the Selective Admissions Program. Students admitted through the Selective Admissions Program are admitted in good standing and are required to participate in academic assistance activities.

ADMISSION OF TRANSFER STUDENTS

If you have attended another college, university, or postsecondary institution you are required to submit an official transcript from each institution attended. All transcripts become the official property of Southern Illinois University Carbondale and will not

be returned nor issued to another institution. Transcripts must be issued by the previously attended institution within the last thirty days.

Transcripts are required from the following institutions:

1. An institution which is accredited or in candidacy status by one of the regional accrediting associations, or
2. An institution which is not accredited by or in candidacy status with one of the regional accrediting associations but the credit from the institution is accepted by the reporting institution in that state, or
3. An institution which is not accredited by or in candidacy status with one of the regional accrediting associations but is one recognized by ACCSCT, ACICS, N.A.I.T., AMA, ABET, or similar accrediting bodies recognized by the National Commission on Accrediting or the United States Office of Education. The student must have completed a two-year non-baccalaureate degree or equivalent terminal program with a C average before admission to SIUC will be granted. Students admitted from such institutions should not expect to receive credit at Southern Illinois University Carbon-dale except in programs which accept occupational credit.

REQUIREMENTS FOR ADMISSION OF TRANSFER STUDENTS

1. Graduation from a recognized high school or satisfactory completion of the General Educational Development Test.

2. An overall C average (2.0 on a 4.0 scale) from all post-secondary institutions. All grades earned in transferable courses and in courses with a quality point value are used to calculate the grade point average used for admission purposes. This includes all grades earned in repeated courses prior to Summer 1996. After Summer 1996 any course taken and repeated from the same institution Summer 1996 or after will have only the last repeated course's grade calculated. Both courses must be from the same institution. Transfer work is calculated according to Southern Illinois University Carbon-dale regulations rather than those of institutions students have previously attended.

3. Eligible to continue your enrollment at the last post-secondary institution attended. Students who have been placed on scholastic probation or academic suspension from another college or university will be considered for admission by the Office of Admissions and Records only if there is tangible evidence that additional education can be completed successfully. Tangible evidence might include: (1) an interruption of schooling for one or more years, (2) military experience, (3) work experience, and (4) previous academic performance.

If you have been suspended for any reason other than academic failure, you must be cleared by the Office of Transitional Programs before admission will be granted by the director of admissions.

If you are seeking admission with fewer than twenty-six semester hours, you will be required to meet the admission requirements of a beginning freshman as well as a transfer student.

Transfer students who have completed a minimum of one year of work can be considered for admission in advance of their matriculation. If you are enrolled in a collegiate program for the first time and wish to transfer upon completion of your first term or first year, you may do so if you meet the University's admission requirements for beginning freshmen. Admission granted to a student on partial or incomplete records is granted with the condition that the student will have an overall C average and be eligible to continue at the last school attended at the time of matriculation. Students whose final transcripts indicate a grade point average or scholastic standing less than that required for unconditional admission may have their admission and registration withdrawn or their scholastic standing changed.

Transfer students will be admitted directly to the academic unit in which their major field of study is offered if they qualify for that program. Students who are undecided about their major field of study will be admitted to Pre-Major Advisement or to selected other units with an undecided major.

TRANSFER CREDIT

Transfer credit for students admitted to the University is evaluated for acceptance toward University and University Core Curriculum requirements by the Office of Admissions and Records after the admission decision has been made. Credit from a regionally accredited institution, and those in candidacy status, or from an institution that has its credit accepted by the reporting institution in the state is evaluated at the time of admission. Courses which are remedial, developmental or pre-college will not be accepted for transfer. Academic Support Programs in the Office of Admissions and Records will determine the acceptance of credit and its applicability toward University Core Curriculum requirements. All credit accepted for transfer which is not applied to University Core Curriculum requirements or to a specific degree program, will be considered general transfer credit (elective credit). Transfer courses to be considered toward specific program requirements will be articulated by the department directing the program. Information on articulation of individual schools is available on the World Wide Web site: <www.siu.edu/oar>.

All grades earned in transferable courses and in courses with a quality point value are used to calculate the grade point average used for admission purposes. This includes all grades earned in repeated courses prior to Summer 1996. Note: any course taken and repeated from the same institution Summer 1996 and after will have only the last repeated course's grade calculated. Both courses must be from the same institution. Transfer work is calculated according to Southern Illinois University Carbondale regulations.

All credit that is accepted for transfer and not applied to University Core Curriculum requirements or to a specific degree program, will be considered general transfer credit (elective credit). A student should only expect to receive credit if the transfer work was taken at a regionally accredited institution or one whose credit is accepted by the reporting institution in the state.

The University accepts credit earned through extension, off-campus, or correspondence programs toward the bachelor degree. Not more than 30 semester hours may be taken in correspondence work. Correspondence work taken from regionally accredited institutions is accepted if the grade is of C quality or better. SIUC operates an individualized learning program, similar to correspondence programs, in which students may earn academic credit.

Credit for Military Experience. Students who have served one or more years of active duty and received an honorable discharge may receive two hours of military studies credit, two hours of physical education credit, and two hours of health education credit. Service of only six months to one year may result in two hours of freshman aerospace studies or army military science credit. Completion of basic training will result in an award of two hours of physical education credit.

Credit will be accepted for DANTES subject standardized courses within the limits enforced for proficiency credit. No credit is allowed for college-level GED tests. In evaluating credit possibilities based on formal service-school training programs, the recommendations of the American Council on Education, as set forth in the US Government bulletin *Guide to the Evaluation of Educational Experiences in the Armed Forces* are followed. To receive credit for military service, veterans must present a copy of discharge or separation papers to Academic Support Programs, Admissions and Records, Mailcode 4701, SIUC, Carbondale IL 62901-4701.

Submission of Transcripts. Transfer students who have taken college-level work at other institutions must have an official transcript of all work, from each college or university attended, forwarded to Admissions and Records. All transcripts must be issued by the sending institution within the last thirty days. Failure to comply with this ruling, failure to indicate all institutions attended on the undergraduate admission application, or incorrect information regarding the status at other institutions can result in withdrawal of admission, dismissal, or denial of credit.

Completion of an associate degree in a baccalaureate-oriented program (A.A. or

A.S.) in an accredited Illinois two-year institution provides that the student will: (a) be accepted with junior standing and (b) be considered to have completed the University Core Curriculum requirements required for general graduation purposes. These benefits do not automatically apply to other associate degrees (e.g., A.A.S., A.E.S., A.F.A.). Associate degrees earned at other than Illinois two-year institutions will be reviewed by the Office of Admissions and Records. If the degree is determined to be baccalaureate-oriented and to have comparable content and credit hour criteria, the same benefits will be extended to those graduates. Transfer students may also satisfy the requirements of the University Core Curriculum by successful completion of the Illinois Transferable General Education Curriculum. Credit from an accredited two-year institution is limited only by the provision that students must earn at least 60 semester hours of work at Southern Illinois University Carbondale or at any other approved four-year institution and must complete the residence requirements for a degree from the University.

Further information on the application of transfer work toward satisfying University Core Curriculum requirements may be found in Chapter 3.

ADMISSION OF SPECIAL CATEGORIES OF STUDENTS

Several types of students are given special consideration when seeking admission to the University.

Admission of International Students

In general, international students must meet the same academic standards for admission as those required of native students. As there is considerable variation between educational systems throughout the world, precise comparative standards are not always available. Therefore, international students are considered for admission on the basis of their former academic work, English proficiency, and evidence of adequate financial resources.

In addition to submitting copies of secondary school records and, when applicable, college transcripts, international students must also submit scores from the TOEFL examination (Test of English as a Foreign Language). TOEFL scores are required of all international students who (1) have completed their secondary education in a country where English is not the native language, (2) have completed fewer than two years of study in a United States high school, (3) have completed fewer than two years (56 semester hours) of collegiate training in an accredited United States college or university. Students who have completed their secondary education in a country where English is the native language are required to submit scores from either the American College Test (ACT) or the Scholastic Aptitude Test (SAT).

Students who have acquired immigrant status are also required to demonstrate English proficiency. English proficiency can be demonstrated by successful completion of the TOEFL examination. Immigrants who have completed at least two years of study in a United States high school, have earned 56 semester hours in a United States college or university, or have completed their secondary education in a country in which English is the native language are not required to submit TOEFL scores or write a special English examination. They may, however, be required to submit university entrance examination scores (ACT or SAT) if they are seeking admission as a beginning freshman or as a transfer student with fewer than twenty-six semester hours.

International students whose secondary school and college records are acceptable for admission purposes must achieve acceptable TOEFL scores for unconditional admission. Students with a TOEFL score of 520 or higher will be granted unconditional admission. Applicants whose TOEFL score is less than 520 will be admitted contingent upon completion of an English test administered by the Center for English as a Second Language. Students who fail to submit TOEFL scores, or who do not submit acceptable TOEFL scores, will be required to attend courses at the Center for English as a Second Language (CESL). The TOEFL score minimum for unconditional

admission may be adjusted when the University begins receiving score reports based on the new computer adapted TOEFL.

An administrative service fee of \$100 per student per semester including summer session will be charged to sponsoring agencies which enroll international students.

International students interested in making application to Southern Illinois University Carbondale should address their inquiries to the Office of Admissions and Records, Mailcode 4701. Southern Illinois University Carbondale, Carbondale, Illinois 62901. The undergraduate international admission application can be submitted electronically by linking to <<http://www.siu.edu/siuc/>>.

Southern Illinois University Carbondale is authorized under Federal law to enroll non-immigrant alien students.

Admission of Former Students

If you have attended other institutions since your previous enrollment at Southern Illinois University Carbondale you must submit an official transcript from each institution before you can be considered for readmission. An overall "C" average (2.0 on 4.0 scale) as calculated according to SIUC grading policies and procedures and based on all post-secondary institutions attended since previous SIUC enrollment is required for readmission consideration. In addition, a student who has a financial obligation to the University or an immunization hold must clear these holds before being considered for readmission. Students who were suspended for scholastic or disciplinary reasons during their previous enrollment at the University must be approved for readmission by the appropriate academic dean or the Office of Transitional Programs before they can be readmitted to the University. Students with less than a C average must be approved for readmission by an academic dean if they are entering an academic unit other than the one in which they were previously enrolled.

It is advisable for former students to initiate the readmission process with the Office of Admissions and Records early. This permits students to complete any special requirements that may be imposed upon them. (See Scholastic Probation, Second Chance and Scholastic Suspension elsewhere in this catalog for further information.)

SECOND CHANCE PROGRAM – A SPECIAL ADMISSION PROGRAM FOR FORMER STUDENTS

The Second Chance Program is designed to allow some former Southern Illinois University Carbondale students who had a poor scholastic performance in their initial enrollment a second opportunity to demonstrate their academic capabilities. The program permits students in selected majors to establish a new grade point average calculated from their first semester of readmission. Not all University departments are participating in the Second Chance Program. Second Chance students will lose their Second Chance standing if they transfer to a program that does not offer Second Chance.

Program Eligibility Requirements. Former Southern Illinois University Carbondale students who meet one of the following qualifications may apply for entrance to the Second Chance Program.

1. Adult reentering students who are at least twenty-four years of age and who previously earned fewer than 60 semester hours at Southern Illinois University Carbondale with less than a 2.0 grade point average. In addition, applicants who have attended any post secondary institution, college, or university including Southern Illinois University Carbondale within the immediate three years prior to reentering Southern Illinois University Carbondale in the Second Chance Program must have earned a 2.0 cumulative grade point average for collegiate work taken during that period.
2. Veterans who have completed at least one year of active military service after having previously earned fewer than 60 semester hours at Southern Illinois University Carbondale with less than a 2.0 grade point average. Southern Illinois University Carbondale must be the first institution attended since discharge or separation.
3. Community college associate degree graduates who have previously earned less

than 60 semester hours from SIUC with a grade point average below 2.0 prior to completing an associate degree from a regionally accredited institution. SIUC must be the first institution attended since earning the associate degree.

Application/Admission Guidelines and Academic Regulations.

1. A former Southern Illinois University Carbondale student must meet the University readmission requirements at the time of readmission before applying for the Second Chance Program.
2. The Second Chance Program application must be submitted before completing the first semester of attendance after being readmitted to the University. The application should be submitted soon after the readmission decision is granted.
3. A student can be admitted to Second Chance only once. Students who are suspended for scholastic reasons while enrolled in Second Chance cannot be readmitted to this program.
4. Students readmitted to Southern Illinois University Carbondale through the Second Chance Program may enter only selected majors. The following programs do **not** participate in the Second Chance Program and transferring to these programs will result in the loss of your Second Chance status.

Accounting	Marketing
Aviation Flight	Mechanical Engineering
Business and Administration	Mining Engineering
Business Economics	Physical Education (athletic training and teacher education specializations)
Business – Undecided	Physical Therapist Assistant
Cinema and Photography	Physician Assistant
Civil Engineering	Radio-Television
Communication Disorders and Sciences	Radiologic Sciences
Electrical Engineering	Social Work
Finance	
Management	

In addition to the above programs, Teacher Education Programs in the College of Education as well as those majors in other colleges in which a student intends to pursue a Teacher Education Program are not available to students in the Second Chance Program.

5. Students who are readmitted through the Second Chance Program will have Second Chance indicated on their transcripts with an appropriate explanation of the program included in the transcript explanation sheet which is attached to all transcripts.
6. Students who are readmitted through the Second Chance Program must meet the curricular requirements stated in the undergraduate catalog in effect for either the term of their reentry or for subsequent terms after their reentry to Southern Illinois University Carbondale under the Second Chance Program.
7. A new Southern Illinois University Carbondale grade point average will be calculated from the first term of readmission through the Second Chance Program.
8. The new Southern Illinois University Carbondale grade point average will apply only to scholastic retention, financial aid, and the grade point average required for graduation from the University. All grades earned at Southern Illinois University Carbondale including all work taken prior to admittance to the Second Chance Program will be used in the calculation of student classification, major program grade point average, collegiate unit requirements, graduation honors, and total semester hours completed.
9. Previously earned work at Southern Illinois University Carbondale will remain on the student's official record and passing work may be used to satisfy degree requirements.
10. Students who are readmitted through the Second Chance Program may not use the University's forgiveness policy to calculate another grade point average for graduation purposes.

11. To be eligible for graduation, a student readmitted through the Second Chance Program must earn at least 30 additional semester hours at Southern Illinois University Carbondale.

12. A Second Chance student who changes majors to a program which does not participate in Second Chance will have their previous SIUC grade point average calculated in all future grade point averages.

Admission of Veterans

Veterans seeking admission to the University are admitted in good standing regardless of their previous academic record provided that any additional post-secondary education attempted after active duty has been completed with a grade average of C quality or better.

Veterans are required to submit all required admission credentials before their applications can be processed. This includes high school transcripts or GED scores, ACT or SAT results if under the age of 21, and official transcripts from each college or university previously attended. Official transcripts from the previously attended institutions must not be more than thirty days old. In order to be admitted under the veteran's policy, one must have served on active duty and present a copy of discharge or separation papers to the Office of Admissions and Records.

Military personnel on active duty in any branch of the United States military are expected to meet the same admission requirements as a veteran. Students in military programs are admitted directly into the degree program in which they are enrolling.

Admission of Students as Unclassified

Students who have graduated from high school or who have passed GED test can be considered for admission as an unclassified student. Students in this special category are non-degree students and are not required to submit all records normally required for admission to a degree program.

Students taking off-campus courses whose admission credentials are incomplete are admitted as an unclassified student. Students in this category have one semester to submit all of the required admission application credentials. Registration for a second term will not be allowed for a student who has an incomplete admission application file. Records submitted by students participating in off-campus courses will be reviewed in accordance with current University admission policies. Students who do not meet the current admission requirements will have their academic status changed to scholastic probation.

SENIOR CITIZEN COURSES ACT

Students admitted under the Senior Citizen Courses may be considered for admission as unclassified non-degree students without submitting records required for admission to a degree program. Those seeking admission to a degree program must meet all University admission policies. For further information also refer to Financial Aid.

Admission of High School Students for Concurrent Enrollment

Exceptionally capable high school students who have completed their freshman year in high school and are recommended in writing by their high school principal may be approved for admission by the director of New Student Admissions. Enrollment in some University courses may be subject to departmental approval. Students approved for admission to this program will be permitted to enroll in University courses during the summer and concurrently with their high school work during the regular school year. Sophomores and juniors may register for one course and seniors may enroll for one and possibly two courses depending on their high school schedules.

The concurrent enrollment program is an acceleration and enrichment experience

for academically capable students. To participate in the program, students must have achieved an overall *B* average (3.0 on a 4.0 scale) in high school.

The University courses to be taken in this program should be in subject areas in which a high school does not offer courses or in subject areas in which the student has completed all of the courses the high school can offer. When a high school principal recommends a specific course or courses to be taken, an academic adviser will assist the student in arranging such a schedule.

It is assumed that high school principals who recommend students for this program will consider a student's aptitude for completing college work and a student's ability to adjust socially to the campus community.

Admission of Transient Students

Students who are attending another collegiate institution and want to enroll for one semester must submit an undergraduate admission application. They must also submit documentation indicating they have an overall *C* average and are eligible to continue their enrollment at the last institution attended. This can be a student's most recent transcript or grade report. Transient students who request to continue their enrollment for subsequent semesters must submit all documents required for admission and meet the University's current admission policies.

Advisement, Registration, Withdrawal

Through a carefully designed system of orientation, academic advisement and registration, the University attempts to assure you an efficient and effective introduction to the University prior to the time you start class attendance. A more extensive program is provided for those students entering during the fall semester while abbreviated activities are in operation for the other semesters.

The University conducts an advance registration system. All continuing and new students have the opportunity and are expected to complete advisement and registration for a semester before its actual start.

At the start of the semester, new students participate in orientation activities during which time they receive an introduction to university life.

Similar procedures are followed at the start of the other semesters. Admitted students are kept informed of orientation, advisement, registration procedures, and the times when they occur by the Office of Admissions and Records in cooperation with Student Affairs.

Academic Advisement

Academic advisement is administered by the academic units. Each unit employs a select group of trained advisers. They operate under the supervision of a chief adviser who is responsible to the dean of the academic unit. Students who have not yet declared a major are advised in the Pre-Major Advisement Center.

The University accepts the importance of the academic advisement function. Insistence on receipt of transcripts and ACT or SAT scores prior to admission serves not only to determine admission but later provides suitable educational information to the advisers upon which decisions can be made relative to the proper courses to advise the student to take. On the basis of this information, an adviser can make intelligent decisions, relative to students who should receive advanced standing in courses or who should be urged to take proficiency examinations in courses about which they appear to be already well informed.

The advising of individual students as to their progress is a service provided to you. It does not relieve you, the student, of the responsibility to assure that you are meeting the requirements you need for graduation. You should check with your adviser whenever you have a question as to how you are proceeding.

Changing Majors

If you wish to change your major you must receive approval from the new department and college. A minimum of a C average is required to process a change in major, some academic units and departments require a higher grade point average. To ascertain the grade point average required for the department you wish to enter, check Chapter 5. Students with less than a C (2.0) grade point average who desire to change from one department to another will be admitted to the new academic unit only if approved by the dean of that unit. To initiate the change, go to the academic unit where you are seeking admission.

Registration for Courses

Registration for any session of the University is contingent upon being eligible for registration. Thus advance registration, including the payment of tuition and fees, is considered to be invalid if you are later declared to be ineligible to register due to scholastic reasons. You may also be considered ineligible to register because of financial or disciplinary reasons.

Detailed information about the dates and procedures for advisement and registration appears in each semester's Schedule of Classes, which is available from your advisement center.

You should be familiar with the following general points about registration.

1. Registration for a semester is conducted under a registration calendar consisting of three distinct periods. Advance registration occurs during the last eight weeks of the preceding term, final registration immediately preceding the start of classes and late registration during the first week of classes.

2. Currently enrolled students are expected to register during the advance registration period. New freshmen, transfer, and re-entry students are provided an opportunity to advance register on specific new student registration days during the advance registration periods.

3. Students who are unable to advance register may register prior to the beginning of classes during the final registration period.

4. Students register at the advisement center of their colleges, schools or departments.

5. Mere attendance does not constitute registration in a class, nor will attendance in a class for which a student is not registered be a basis for asking that a program change be approved permitting registration in that class. Students should complete the registration process before classes begin.

6. Enrollment changes to classes can only be made through the processing of an official registration form. After the second week of the semester, this form must be processed by the Office of Admissions and Records.

8. Tuition and fees are payable in advance or by installments and no student shall be enrolled in any educational unit until at least the first installment of tuition and fees has been paid or officially deferred.

9. Students may not drop a course merely by stopping attendance. (See Withdrawal below.)

Attendance

The faculty of Southern Illinois University Carbondale affirm the importance of prompt and regular attendance on the part of all undergraduate students. Quality instruction clearly depends upon active student participation in the classroom or its equivalent learning environment. In the transition from high school to the university and from the university to the workplace, personal success is directly related to good attendance.

As a caring public institution, SIUC has the obligation to encourage its primary constituents, the students, to meet their responsibilities first of all to themselves, but

also to their families, their classmates, their instructors and the taxpayers and donors who underwrite higher education in the state of Illinois.

For these reasons the SIUC faculty remind undergraduates and their instructor that the first day of class is just as valuable as the last day of class; that work and other extracurricular commitments do not necessarily justify an absence; that holidays begin and end precisely as stated in the University calendar; that instructors should be notified three days prior to religious observances; that major examinations, term papers, and/or assigned projects for one class do not exempt students from their need to attend another; and finally, that some financial assistance at the university is actually contingent upon attendance.

Students who stop attending a class without officially dropping, will be subject to being awarded a *WF* grade for the class. The *WF* grade is assigned by the instructor along with an indication of the recorded last date of attendance. The *WF* grade counts as an *F* in the undergraduate gpa calculation. The last date of attendance associated with the *WF* may affect the student's enrollment status, and thus their eligibility for financial aid.

These guidelines express the faculty's collective concern for undergraduates and for one important feature of their education here at SIUC.

Student Identification Numbers

The university student identification number may be the individual student's Social Security number. Students who do not have a Social Security number will be issued a system generated number. Students not wanting their Social Security number used as their university identification number may also request a system generated number.

Withdrawal

If you officially register for a session you may not withdraw merely by the stopping of attendance. You need to process an official withdrawal form. Outlined below are the procedures to be followed when dropping courses and when dropping from the University (which would be withdrawal from all courses for which registered).

DEADLINE DATES

If Classes Meet for	Deadline for Withdrawal to Receive Full Refund	Deadline to Withdraw
13-16 weeks	2nd week	8th week plus 1 day
9-12 weeks	2nd week	6th week
8 weeks	2nd week	4th week
7 weeks	1st week	4th week
4-6 weeks	1st week	3rd week
2-3 weeks	1st day	1st week
Less than 2 weeks	1st day	2nd day
Off-Campus and Individualized Learning Courses ¹	2nd week	8th week

¹Off campus sections (not to include Military Programs) have the same relative deadline dates as On-campus sections, based on the scheduled meeting dates of the section. Individualized learning deadlines are calculated beginning with the date the student registers for the class.

Course Drops. Students officially drop courses through the program change process. This process is done with the academic adviser. Unless a student has processed an authorized drop from a course by the deadline in the schedule above, the student will not be allowed to drop the course. It is the student's responsibility to ensure that the drop process is officially completed. It is probable that a student who does not drop by the deadlines, but stops attending during the second half of the semester, will receive a grade of *WF*. Note: ceasing to attend a course may also effect a student's financial aid eligibility and the *WF* counts as an *F* in the calculation of the gpa. Students who drop courses after the full refund deadline, but remain enrolled in the University, will not receive any refund.

Withdrawal From the University. Students registered for academic work must obtain a withdrawal if they contemplate leaving the University. If the student has not made any tuition and fees payment, the registration may be canceled. If the student has paid or made partial payment for tuition and fees, a withdrawal must be processed. If a housing contract has been purchased, the student must contact University Housing to cancel the contract.

Withdrawal from the University is a serious decision which, in many cases, affects financial assistance status, housing contracts, and academic records. A student may, with authorization from the Office of Transitional Programs and the academic dean, obtain a withdrawal. There are, however, restrictions on a withdrawal. A withdrawal will not be issued beyond the eighth week of the semester unless the reasons for the withdrawal are beyond the student's control and verified in writing. Warning: if a student obtains a withdrawal after the 100% refund period and is receiving financial assistance, the student may be in violation of the Satisfactory Progress for Financial Assistance policy since no academic credit will be earned for the semester. The table above provides the deadline dates for withdrawal.

Students receiving a withdrawal from a full semester length course within the first two weeks will, under normal circumstances, receive a refund of all tuition and fees paid by the student or family. All financial assistance funds will be returned to their original sources if the student withdraws during the 100% refund period.

Students who withdraw after the full refund deadline will receive an account credit equal to a pro-rata refund of tuition and fees through sixty percent of the duration of the enrollment period. An administrative fee will be assessed to all students who withdraw from the University and receive a pro-rata refund. The amount of the fee will be lesser of five percent of all assessed charges, or \$100. See the following *Pro-Rata Refund Schedule for Withdrawals from the University*.

PRO-RATA REFUND SCHEDULE FOR WITHDRAWALS FROM THE UNIVERSITY

Enrollment Period	Length of Courses in Weeks											
	16	15	14	13	12	11	10	9	8	7	6	5
Week 1	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Week 2	100%	100%	100%	100%	100%	100%	100%	100%	100%	70%	70%	60%
Week 3	80%	80%	80%	80%	70%	70%	70%	70%	60%	60%	50%	40%
Week 4	70%	70%	70%	70%	70%	60%	60%	60%	50%	40%	40%	0%
Week 5	60%	60%	60%	60%	60%	50%	50%	40%	40%	0%	0%	0%
Week 6	60%	60%	50%	50%	50%	40%	40%	0%	0%	0%	0%	
Week 7	50%	50%	50%	40%	40%	40%	0%	0%	0%			
Week 8	50%	40%	40%	40%	0%	0%	0%					
Week 9	40%	40%	0%	0%	0%	0%						
Week 10	40%	0%	0%	0%								
Week 11+	0%	0%										

Enrollment Period	Length of Courses in Weeks			
	4	3	2	1
Day 1	Week 1	100%	100%	100%
Day 2		100%	90%	80%
Day 3		100%	80%	70%
Day 4		100%	70%	60%
Day 5		100%	60%	50%
Day 6	Week 2	70%	60%	40%
Day 7		60%	50%	0%
Day 8		60%	40%	0%
Day 9		50%	40%	0%
Day 10		50%	0%	
Day 11	Week 3	40%	0%	
Day 12		40%	0%	
Day 13		0%		
Day 14		0%		
Day 15		0%		
After Day 15		0%		

Students who officially withdraw from school by the specific withdrawal deadline will receive a credit to their University account. Immediate cash refunds are not given for withdrawal from the University, reduction in credit-hour loads, or overpayment of account. Refunds are processed by the Bursar at least once a week (twice a week during the week before the start of a semester and the first week of a semester) from an automated listing reflecting those accounts with a credit balance. No refunding of tuition and fees is made for a withdrawal occurring after the deadlines, except as described in the section titled Tuition and Fee Refund Policy and Procedures below.

Special consideration is extended to individuals who leave school for extended military service (6 months or longer). If students withdraw during the sixth through tenth weeks of school, they will receive one-half credit without letter grades for the courses in which they were receiving a passing grade at the time of withdrawal. When the withdrawal occurs after the tenth week, students will receive both grades and credit hours for the courses in which they are passing. In all instances, a copy of the military orders or a letter from the commanding officer is required for verification of impending military service. To be eligible for these benefits students must remain in school to within ten days of their military reporting date.

Withdrawal from the University does not relieve the student from housing contract obligations. Each student who has a contract with the University must contact University Housing and resolve the contract issue with that office.

All students seeking a withdrawal must contact the Office of Transitional Programs in person or by mail. The effective date of the withdrawal, if granted, will be the student's last date of class attendance, provided the student completes the requirements for the withdrawal. Incomplete applications for withdrawal will be denied. Any student who fails to comply with the withdrawal procedures will receive grades for the semester and must satisfy the financial obligations for the semester.

Tuition and Fees and Other Financial Information

It is difficult to indicate the specific cost of attending the University because of the differences in personal spending habits. Information on residency status (non-Illinois residents) can be found in Chapter 7 or by contacting Admission and Records at (618) 453-4381.

Tuition and Fees

Tuition and fees charged students are established by the Board of Trustees and are subject to change whenever conditions necessitate. All assessments are on a per-hour basis. Students will be assessed the following tuition and fees for Fall 1999 and Spring 2000:

ON-CAMPUS UNDERGRADUATE TUITION AND FEE SCHEDULES

Semester Hours Enrolled	Illinois Residents			Non-Illinois Residents		
	Tuition	Student Fees	Total	Tuition	Student Fees	Total
1	\$ 95.50	\$256.58	\$ 352.08	\$ 191.00	\$256.58	\$ 447.58
2	191.00	281.91	472.91	382.00	281.91	663.91
3	286.50	307.24	593.74	573.00	307.24	880.24
4	382.00	332.57	714.57	764.00	332.57	1,096.57
5	477.50	357.90	835.40	955.00	357.90	1,312.90
6	573.00	383.23	956.23	1,146.00	383.23	1,529.23
7	668.50	408.56	1,077.06	1,337.00	408.56	1,745.56
8	764.00	433.89	1,197.89	1,528.00	433.89	1,961.89
9	859.50	459.22	1,318.72	1,719.00	459.22	2,178.22
10	955.00	484.55	1,439.55	1,910.00	484.55	2,394.55
11	1,050.50	509.88	1,560.38	2,101.00	509.88	2,610.88

ON-CAMPUS UNDERGRADUATE TUITION AND FEE SCHEDULES

Semester Hours Enrolled	Illinois Residents			Non-Illinois Residents		
	Tuition	Student Fees	Total	Tuition	Student Fees	Total
12	1,146.00	535.40	1,681.40	2,292.00	535.40	2,827.40
13	1,241.50	535.40	1,776.90	2,483.00	535.40	3,018.40
14	1,337.00	535.40	1,872.40	2,674.00	535.40	3,209.40
15+	1,432.50	535.40	1,967.90	2,865.00	535.40	3,400.40

STUDENT FEE DISTRIBUTION

Sem. Hours Enrolled	STS Grant (1)	Student Attorney (2)	Student Center (3)	Student Activity (4)	Student Rec (5)	Athletic Fund (6)	Campus Rec (7)	Student Medical (8)	Revenue Bond (9)	Mass Transit (10)
1	\$3.00	3.75	\$4.58	1.56	\$ 5.50	\$ 6.50	\$0.33	\$224.50	\$ 4.95	\$ 1.91
2	3.00	3.75	9.16	3.12	11.00	13.00	0.66	224.50	9.90	3.82
3	3.00	3.75	13.74	4.68	16.50	19.50	0.99	224.50	14.85	5.73
4	3.00	3.75	18.32	6.24	22.00	26.00	1.32	224.50	19.80	7.64
5	3.00	3.75	22.90	7.80	27.50	32.50	1.65	224.50	24.75	9.55
6	3.00	3.75	27.48	9.36	33.00	39.00	1.98	224.50	29.70	11.46
7	3.00	3.75	32.06	10.92	38.50	45.50	2.31	224.50	34.65	13.37
8	3.00	3.75	36.64	12.48	44.00	52.00	2.64	224.50	39.60	15.28
9	3.00	3.75	41.22	14.04	49.50	58.50	2.97	224.50	44.55	17.19
10	3.00	3.75	45.80	15.60	55.00	65.00	3.30	224.50	49.50	19.10
11	3.00	3.75	50.38	17.16	60.50	71.50	3.63	224.50	54.45	21.01
12+	3.00	3.75	55.00	18.75	66.00	78.00	4.00	224.50	59.40	23.00

The fees which have been established by the Board of Trustees are payable by all students unless they are specifically exempted by the Board of Trustees. All fees are considered to be institutional in nature and require payment regardless of whether or not the student receives direct benefits or is in a location which permits access to such benefits.

STUDENT FEES INCLUDE

1. The Student-to-Student (STS) Grant Program Fee funds a student grant program. The fee is payable by undergraduate students only; those who do not wish to participate in the program may seek a refund of the fee by contacting Admissions and Records within ten days of the date of payment of fees.
2. The Student's Attorney Fee supports the budget of the Students' Attorney Program
3. The Student Center Fee provides funding for operation of the Student Center.
4. The Student Activity Fee funds student organizations and activities on campus; it includes \$1.15 in funding for Campus Safety and \$4 in support of Rainbow's End.
5. The Student Recreation Fee (REC) provides funds for operation of the Student Recreation Center and associated programs.
6. The Athletic Fund Fee partially funds the University's intercollegiate programs for men and women.
7. The Campus Recreation Fee funds recreational facilities and programs external to the Student Recreation Center.
8. The Student Medical Benefit Fee is comprised of the SMB: Primary Care Fee of \$90.50 and the SMB: Extended Care Fee of \$134.00. It funds the comprehensive Student Health Program that includes emergency service and hospitalization; specialty, primary and emergency dental care; and prevention programs. Students who pay these fees are entitled to full medical benefits at the Student Health Programs Clinic. If the student feels they have comparable coverage, they may seek a refund of the SMB: Extended Care Fee within the first two weeks of a fall or spring semester or the first week of a summer session by contacting the Student Health Programs Insurance Department. Similarly, a refund may be authorized for those students precluded

from use of the Student Health Program by unusual or extreme geographic considerations.

9. The Revenue Bond Fee (RBF) replaces funds which were previously obtained from tuition payments and used to underwrite the funded debt operations of the Student Center and University Housing.

10. The Mass Transit Fee provides funding for bus transportation to on-campus and certain Carbondale locations.

ADDITIONAL FEE INFORMATION

1. Students who register for regular term-length classes, after classes begin and students who register for shorter-than-term-length classes, including inter-session classes after the first listed meeting day of the class, will be assessed a Late Registration Fee of \$15. The fee is non-refundable and non-waiverable unless it is clearly shown that the late registration was caused by faculty or administrative action. Off-campus classes and registration in courses 599 , 600, 601 and 699 are exempt from this fee

2. Graduate, medical, and law students are not required to pay the student-to-student grant program fee.

3. Permanent full-time or permanent part-time employees may be eligible for tuition and fee credit. Employees must have approval from their department head and the director of Human Resources before enrolling for courses.

4. Students taking off-campus courses (Section number range 800-899) are required to pay tuition, but do not pay student fees for those classes.

5. Students may also incur charges for departmental field trips, library fines and excess breakage. Students taking a course involving use of materials, as distinct from equipment, will ordinarily pay for such materials.

6. Students enrolling in Public Service Courses pay tuition and \$3 per hour divided equally between Student Center and Medical fees. Students enrolling in a combination of public service courses and other courses pay tuition and fees based on the on-campus tuition and fee schedule for the combined total of hours enrolled

7. Medical students at Springfield do not pay the Student Center Fee, Student REC Fee, Revenue Bond Fee, Students' Attorney Fee, or Athletic Fund Fee.

8. Students enrolling in off-campus courses pay tuition only. Students who combine enrollment in on- and off-campus courses pay tuition only for hours off-campus and tuition and fees for hours enrolled on campus.

9. Tuition and program delivery charges for students enrolled in off-campus programs for the military are established in accordance with the Board of Trustee's policies relating to such charges for Southern Illinois University Carbondale cost recovery programs and are not affected by the residency status of the student.

10. For the purpose of tuition assessment, all faculty, staff (including Civil Service employees), and graduate assistants, as well as their spouses and dependent children, shall be considered as resident students.

11. An identification card fee of \$10 will be charged to all first-time SIUC students who register for on-campus credit. This is a one-time charge. For additional information contact the Student Center ID Card office.

12. Senior Citizen Courses Act. Senior citizen as defined under the Act means a person 65 years of age or older whose annual household income is less than \$14,000. The statute requires the University to waive the tuition for such citizens unless classroom space is not available or if tuition paying students enrolled do not constitute the minimum number required for the course. Even where tuition must be waived, other fees may be charged.

13. In addition to the above fees, there is a graduation fee application and a transcript fee. For further information contact the Office of Admissions and Records.

PAYMENT OF TUITION AND FEES

Tuition and fees are payable each semester during the academic year. Students will

receive monthly statements of account through the University billing/receivable system. The statement lists all tuition and fees assessed, charges for University housing, charges for various other services, credits applied to the student's account from financial aid sources and cash payments. It shows the balance of these charges and credits as an amount owed by the student or an amount owed to the student. The statement also will show amounts which have been previously billed, amounts which are currently due during the billing period, and amounts which will be due in the future. Payment may be made either by mail or in person at the Bursar Office by the deadline date in accordance with instructions printed on the statement of account.

The top portion of the statement should accompany the payment. The bottom portion of the statement should be retained by students for their records. Prepayments of tuition and fees prior to detailed charges are not encouraged; however, early payments will be generally credited to the student's account and will be applied to charges made to that account.

The statements will be mailed to the student's billing, or if not one, the local address after the fifteenth of each month. December statements of account are mailed to the student's billing address, or if not one, the student's permanent address.

It is the student's responsibility to maintain an accurate local address or billing address to which a statement of account can be mailed. Failure to receive a bill does not relieve students of the responsibility for prompt payment of amounts due. See additional information under the heading Local, Permanent, and Billing Addresses below.

No student shall be enrolled until the student has either paid tuition and fees in full or has paid the initial installment or has a current cancellation waiver. Other amounts due from students at the time the initial installment payment of tuition/fees is due must also be paid or students will not be allowed to enroll. Students who fail to pay the first installment and all other past due charges or who fail to obtain a waiver of cancellation may have their registrations canceled and will be denied privileges available to a student regularly enrolled in the University. Students with canceled registrations who want to be enrolled at the University must reregister. They will be subject to payment in full or the installment plan in effect at the time of their re-registration. They may also be subject to a late registration fee.

A service charge of one and one-half percent per month will be assessed on all accounts which are delinquent. To avoid the service charge, students must pay the minimum amount due printed on the statement prior to the next billing date. More detailed information is in the *Schedule of Classes* published each semester.

Following the end of each semester, students not registered for the next semester who have delinquent account balances will receive a series of itemized statements requesting payment. If payments, or arrangements, are not made on a timely basis, the account may be placed with a collection agency with a collection fee added to the account. Should it be necessary for an outside agency to effect a collection, reasonable collection costs shall be 33 1/3% of such amount and shall be paid by the debtor. If the University obtains judgment from a court of competent jurisdiction, the debtor shall be liable for the collection agency fee as well as reasonable court costs and attorney's fees.

Students who process a program change which places them in a different tuition and fee category than the one for which they originally registered will be billed additional tuition and fees when appropriate. If the change places them in a smaller tuition and fee category and if they processed the program change within the necessary time frame, they will receive a refund provided their account carries no other charges.

Installment Payment Plans. There are several installment payment plans and eligibility will depend on where students attend class and when they register. The University reserves the right to alter the payment plans offered and in some plans to require

prepayment of part or of all a student's charges prior to registration. The basic criterion for eligibility in installment payments is that the student must be attending classes on the Carbondale campus or School of Medicine classes in Springfield. Payment plans for students attending classes on the Carbondale campus or School of Medicine classes allow tuition and fees to be paid in up to four installments for fall or spring semesters and up to two installments for summer term, depending on when students process their registrations. Students who opt for the installment payment need only to pay the minimum amount due indicated on the May, July, or December statement of account by the stated deadline. There is no installment payment plan for students who only attend classes off-campus. A one and one-half percent service charge will be assessed on all minimum amounts not paid prior to the next billing. Students in military contractual programs are not subject to a service charge.

DEFERMENT OF TUITION AND FEES

When a student's financial aid has been delayed, or the funds which a student anticipates using to pay tuition and fees are unavailable by the regular due date for tuition and fee payment, the student may apply for an extension of the payment deadline date through a process called waiver of cancellation. Cancellation waivers are available to students who can demonstrate that they meet minimal eligibility criteria and can provide written verification of an ability to pay. Information on cancellation waivers is publicized each semester in the Office of Admissions and Records, the Bursar Office, the Financial Aid Office, and the *Daily Egyptian*. Eligibility criteria and procedural guidelines may vary from term to term and year to year. Students are advised to seek out the accurate information rather than assume they qualify.

Students applying for a cancellation waiver must first complete registration. Written verification from the source of funds to be used to pay tuition and fees must be presented in person to the Financial Aid Office for those students with approved scholarships, grants, or loans, or any combination of these. Instances of exceptional need will be referred to a financial aid officer when the source of funds is other than those identified above. Additional information on cancellation waivers is available in the Financial Aid Office. Phone or mail requests for deferments will not be accepted.

TUITION AND FEE REFUND POLICY AND PROCEDURES

Tuition and all general student fees shall be refunded to students who officially withdraw from the University by the withdrawal deadlines (see Deadline Dates above). Action on any request for refund of tuition and fees shall be in compliance with Board of Trustees policy and these procedures. For refund of tuition and fees prior to the withdrawal deadlines, the following will apply.

Request for a withdrawal from the University is initiated in the Office of Transitional Programs and approved by the student's academic dean as part of the normal withdrawal procedures.

Refund of tuition and fees based on withdrawal from the University on or prior to the withdrawal deadlines is made without consideration of the student's reason for withdrawing.

No tuition or general student fees shall be refunded in cases where withdrawal occurs after the deadlines stated in Board of Trustees policy, except for students in grave circumstances who demonstrate that, for reasons beyond their control, they are utterly unable to continue their educational programs. Refunds of tuition and general student fees approved in such cases are made at the University's discretion upon a determination by the chancellor or his designee of the existence of one of the following conditions.

Accident or illness occurring prior to the withdrawal deadline which incapacitated the student and made it impossible for them to withdraw prior to the deadline.

Accident or illness in the student's immediate family which occurs prior to the withdrawal deadline and is of such nature as to prevent the student from continuing their education.

Emotional or psychological trauma resulting from an incident which occurred prior to the deadline and for which the student is undergoing counseling or therapy.

A disciplinary, academic, or financial aid termination appeal which is not accepted if the appeal was initiated prior to the withdrawal deadline.

Induction into military service for a period not less than six months.

Students in military service with the State of Illinois pursuant to the orders of the Governor have the right to receive a full monetary credit or refund for funds paid to any Illinois public university, college or community college if the person is placed into a period of military service with the State of Illinois pursuant to the orders of the Governor and is unable to attend the university or college for a period of seven or more days. Students may elect to receive course credit for all of their courses rather than a refund.

The refund of tuition and fees in cases where withdrawal from the University occurs after the deadlines specified in the Board of Trustees refund policy is governed by the following procedures.

The vice chancellor for Student Affairs or his designee will serve as the chancellor's representative for considering requests for refund of tuition and fees after the time period specified in the refund policy.

Request for such refunds are initiated in the Office of Transitional Programs which will furnish the student with the necessary information and appropriate form.

A student requesting a refund after the specified periods must withdraw from the University before the request for refund will be acted upon.

Tuition and fees will not be refunded for courses which have already been completed earlier in the semester and for which a final grade has been earned.

The student must submit written verification of the reasons supporting the request, i.e., (a) written verification from a physician as to the accident or illness to the student or in the student's immediate family and the student's inability to withdraw prior to the deadline; or (b) written verification from a physician or counselor which supports their statement concerning emotional or psychological trauma and which substantiates that the trauma resulted from an incident which occurred prior to the deadline; or (c) a copy of the letter denying a disciplinary, academic or financial aid termination appeal and verification that the appeal was filed prior to the withdrawal deadline; or (d) written correspondence from the military which verifies when the student is to report for military service and the length of time for which the student is expected to serve.

The student requesting the refund shall be required to substantiate to the Office of Transitional Program's satisfaction the nature, extent, and seriousness of conditions or circumstances which are the basis for the refund request.

The Office of Transitional Programs will make a decision on the request and inform the student as soon as practical. Refund approvals will then be forwarded to the Office of Admissions and Records for processing.

Local, Permanent and Billing Addresses

The University maintains both a local and a permanent address for students and a billing address for students who request a specific address for their statements. Accurate addresses are very important for students to ensure receipt of timely mail from the University.

The *billing address* is used only by the Bursar to mail the statement of account. If no billing address exists, the local address is used as the address for the Statement of Account in the months of January through November. In the absence of a billing address, the Statement of Account is mailed to your permanent address in the month of December only.

The *permanent address* maintained by the University is your permanent home address or the address at which you will promptly receive mail when you are absent from Carbondale.

The *local address* is your primary residence while classes are in session. It is used by the University to direct correspondence during the semester. In the months of January through November this address is used to mail your Statement of Account if no billing address exists.

Grading and Scholastic Regulations

Grading System Explanation

The grades of *A*, *B*, *C*, *D*, and *F*, are included in determining student grade point averages.

An *INC* is assigned when, for reasons beyond their control, students *engaged in passing work* are unable to complete all class assignments. An *INC* must be changed to a completed grade within a time period designated by the instructor but not to exceed one year from the close of the term in which the course was taken, or graduation, whichever occurs first. Should the student fail to complete the course within the time period designated, not to exceed one year, or graduation, whichever occurs first, the incomplete will be converted to a grade of *F* and the grade will be computed in the student's grade point average. Students should not reregister for courses in which an *INC* has been assigned with the intent of changing the *INC* grade. Re-registration will not prevent the *INC* from being changed to an *F*.

GRADING SYSTEM

GRADE SYMBOL	DEFINITION	GRADE POINTS PER HOUR
A	Excellent	4
B	Good	3
C	Satisfactory	2
D	Poor	1
F	Failure	0
P	Pass. Used only in Pass/Fail system. See Grading System Explanation below.	
PR	Work in Progress. See Grading System Explanation below.	
W	Authorized withdrawal. See Grading System Explanation below.	
WF	Failure. For student who did not officially withdraw from class, ceased attending and failed to complete requirements for the course.	
INC	Incomplete. See Grading System Explanation below.	
AU	Audit. No grade or credit earned. See Grading System Explanation below.	

For *mandatory* Pass/Fail courses, the grades of *P*, when the student's work is satisfactory, or *F*, when the student's work is unsatisfactory, may be recorded. For a *P*, the hours apply toward graduation but the grade does not affect the grade point average. For an *F*, the hours do not apply toward graduation but the grade does count in the grade point average. If a student receives an *INC* in a Pass/Fail course, the same regulations apply for completion of the work as apply for all other grades of *INC*, as explained above.

Students enrolling for an *Audit* must designate their intent to enroll on an *Audit* basis at the time of registration or prior to the end of the second week of a sixteen-week semester and prior to the end of the second week of an eight-week summer session. An equivalent prorated amount of time would be allowed for courses of shorter duration. Students registering for short courses must register for *Audit* prior to the beginning of those classes. Students registering for a course on an *Audit* basis receive no credit. Auditors' Course Request Forms must be marked accordingly, and they pay the same fees as though they were registering for credit. They are expected to attend regularly and to determine from the instructor the amount of work expected of them. If auditing students do not attend regularly, the instructor may determine that the student should not have a satisfactory (*AU*) audit grade. If the audited class is unsatisfactory, the grade will appear as *UAU*.

PR is an authorized grade for specifically approved undergraduate courses. For example, it is used for the required University Core Curriculum English 101 which is a course that has been designated as one in which students must receive a grade of C or better. The grade is given only to students who regularly attend class and attempt to complete the required work. The grade is to be used only once per student for any given course. The course provides additional instruction for those students not making adequate progress. Students who receive a *PR* grade must reregister for the course within a time period not to exceed a year from the end of the semester in which the course is taken. The grade earned in the course for which the student reregisters will be included in the grade point average. Failure to complete the course within the year will result in the *PR* automatically becoming an *F*. The *F* will be included in grade point computation.

PASS/FAIL-GRADING SYSTEM

Certain courses which, in the judgment of the department or program, have been determined to be inappropriate for the traditional grading system are designated as Mandatory Pass/Fail. Courses which carry this designation include the words, Mandatory Pass/Fail, at the end of the course descriptions in Chapter 6. For courses taken on a Mandatory Pass/Fail basis, completed grades will be either a *P* or an *F*. The grade of *P* is not included in the grade point average but the hours earned apply toward graduation. The grade of *F* is computed in the grade point average as a failure but no hours of credit are earned. If a student receives an *INC* in a Mandatory Pass/Fail course, the same regulations apply for completion of the work as apply for all other grades of *INC*, as explained in the Grading System Explanation above.

In addition to the Mandatory Pass/Fail courses, an Elective Pass/Fail grading policy was in effect through the end of Spring Semester, 1987. The regulations concerning the discontinued policy appear in the 1986-1987 Undergraduate Bulletin.

CHANGING OF GRADES

Grades given at the end of a course are final and may not be changed by additional work or submitting additional materials. When work is completed for a course in which an *INC* grade has been given, instructors notify the Office of Admissions and Records of that fact, along with the final grade to be given, by processing a Grade Change Card through the academic dean's office.

Occasionally, students may wish to question grades given, either for accuracy or for removal of grades in situations when they were unable to perform some required step for reasons beyond their control. Only the assigned instructor for a course has the authority to change a grade except in the instance when the instructor is no longer employed by the University. Extenuating circumstances which transcend faculty judgment of the instructor may be appealed through procedures established by the instructor's school or college. Matters related to faculty judgment in grading may not be appealed. Any change of grade must be approved and signed not only by the instructor but also by the departmental chair and the dean of the academic unit. An incomplete grade which is changed to a final grade need only be signed by the instructor.

Repeat Policy

All earned grades carrying quality point values are considered when computing students' grade point averages, including each earned grade in a repeated course that is taken prior to Summer 1996. Effective with courses taken Summer 1996 and beyond, only the last grade of the subsequently repeated course will count in the grade point average even if the last grade is an *F*.

Scholastic Standing

The matter of scholastic standing is quite often of importance to students both while in school and later when they present a transcript of their educational record in sup-

port of their application for employment or additional schooling.

At the end of each semester or session of attendance a grade report is prepared for each student showing, in addition to the grades earned that semester or session, the scholastic standing and the grade point average for that semester or session and for the overall record at Southern Illinois University Carbondale. It is important that you understand the University's system for computing grade point averages and the various grade point average requirements.

Transferred grades are not to be used in determining students' calculated SIUC grade point averages, except that transfer students who are admitted on probationary status will be required to earn a 2.0 average semester by semester until a total of 12 semester hours has been earned before they can be removed from probation.

The significance of the above should be clearly understood by transfer students when studying the general baccalaureate degree requirements. A 2.0 (C) average is required for the work taken at this University.

In computing students' grade point averages all grades of A, B, C, D, F and WF are included in determining the number of *quality* hours. Each hour of these grades (1 hour of A is worth 4 quality points) is given its numerical quality points, and the total number of quality hours is then divided into the total number of quality points to determine the student's grade point average.

Scholastic Probation and Suspension System

Students are expected to make satisfactory progress toward a degree, certificate or other approved objective. To ensure that students are making progress their records are checked against the regulations below.

SCHOLASTIC PROBATION

When a student's semester average and the cumulative University average fall below a C average (2.0), the student will be placed on scholastic probation. A student on scholastic probation may continue enrollment at the University provided the student does not accumulate more than six negative points. See Positive and Negative Grade Points below for an explanation of how positive and negative points are calculated. The student with more than six negative points will not be suspended so long as the term average is C (2.0) or above. A student will remain in the category of scholastic probation until the cumulative University average is C (2.0) or higher.

While on scholastic probation students may not enroll for more than 14 hours per semester unless approved to do so by the dean of their academic unit. Students employed full time may not register for more than eight hours without approval of the head of their academic unit. Other limitations may be established by the academic unit within which the students are enrolled. Students enrolled in programs for the military or students enrolled in programs with a weekend or evening format are not restricted to the eight hour limit while on probation.

TRANSFER STUDENTS ADMITTED ON PROBATION

Transfer students admitted on scholastic probation will remain in that status until they have earned at least a C average at Southern Illinois University Carbondale. If they earn below a C for any session while on scholastic probation, they will be placed on scholastic suspension.

SCHOLASTIC SUSPENSION

Students will be scholastically suspended from the University if they fail to meet the requirements of their conditional or probational status. Students placed on Scholastic Suspension may seek reinstatement after a minimum of two semesters' interruption but must furnish tangible evidence that additional education can be successfully undertaken. Some academic units have scholastic requirements in addition to the overall University requirements listed here. Students must learn and comply with the University requirements as well as those requirements applying to individual schools and colleges.

POSITIVE AND NEGATIVE QUALITY POINTS

Positive and negative quality points are assigned to grades above or below a C. There are two methods to figure points depending upon the information which is available.

Grade Slip. The grade slip printed at the end of each semester lists the hours used in calculating the average and the quality points earned. Since C has a value of two quality points on a 4 point scale, quality points equaling a C average are exactly twice the number of quality hours. All quality points over that amount are positive quality points. All quality points under the amount are negative quality points.

For example:

$$\begin{array}{rclclcl} \text{Quality Hours} & & & \text{Quality Points} & & \text{Grade Point Average} \\ 60 & = & & 120 & = & (\text{C}) 2.0 \end{array}$$

Twice the quality hours equals 120 quality points. This is a C (2.0) average. A student with 60 quality hours and only 115 quality points would have five negative points (1.92 average). A student with 30 quality hours and 55 quality points would have five negative points (1.83) average.

Grades and Hours of Credit Available. Whenever all grades and hours of credit are known and quality points have not been assigned as on the grade slip, a simple method is to assign positive and negative points as follows:

A	=	2 positive points per hour
B	=	1 positive point per hour
C	=	0
D	=	1 negative point per hour
F	=	2 negative points per hour
WF	=	2 negative points per hour

For example:

3 hours of A	X	2 positive points	= 6 positive points
3 hours of B	X	1 positive point	= 3 positive points
3 hours of C	X	0 points	= 0.
2 hours of D	X	1 negative point	= 2 negative points
4 hours of F	X	2 negative points	= 8 negative points
4 hours of WF	X	2 negative points	= 8 negative points

The ten negative points are balanced by only nine positive points so the sample has one negative point.

Negative points are also used to easily determine exactly what grades must be earned to raise the average to C. For example, a student with eight negative points could raise the average to C by earning four hours of A grade or eight hours of B grade, assuming all other grades earned are at least C.

Class Standing

The University requires students to earn at least 120 semester hours of acceptable credit in order to receive a baccalaureate degree. For academic classification purposes a freshman is a student who has completed fewer than 26 hours; a sophomore, from 26 through 55; a junior, from 56 through 85; and a senior 86 or more.

Academic Load

The University considers 12 hours as the minimum number to constitute full-time attendance. This is the figure used for enrollment reporting purposes, by the Illinois State Scholarship Commission, and for Public Law 358 on the undergraduate level. Students attending school under some type of scholarship or assistance program that requires them to be enrolled as full-time students should check with the University office administering the program on this point. Further information on Public Law 358 is available at the Financial Aid Office. Academic load guidelines are as follows:

LOAD	REGULAR SEMESTER	8-WEEK SUMMER SESSION
Minimum load for full time	12	6
Average load	15-16	7-8
Maximum load without dean's approval	18	9
Maximum load ¹	21	11

¹This maximum may be exceeded by very special action of the respective academic dean, and rarely more than once in the student's degree program.

Students on scholastic probation may not take more than 14 hours without approval of the dean of their academic unit. Students employed full-time may not register for more than eight hours.

Credit

UNIT OF CREDIT

The University is on the early semester calendar. All references to hours of credit in this catalog are to semester hours unless otherwise specified. One semester hour of credit is equivalent to one and one-half quarter hours. One semester hour of credit represents the work done by a student in a lecture course attended fifty minutes per week for one semester and, in the case of laboratory and activity courses, the stated additional time.

Program Flexibility for the Student

The University offers you a wide variety of programs on all higher educational levels. Specialized programs are available on the associate and baccalaureate levels. In addition, the University gives constant attention to methods whereby it might better serve present day educational needs. Described below are opportunities for you to earn credit through means other than the traditional classroom method. While greater flexibility is the goal, the University exercises appropriate supervision to ensure the flexibility is accompanied by educational soundness.

Credit by Means Other than Classroom Attendance

Several methods are provided for you to earn credit by means other than the traditional classroom method. The methods currently available are described below.

EXTENSION (OFF-CAMPUS) AND CORRESPONDENCE CREDIT

The University accepts credit earned through extension, off-campus, or correspondence programs toward the bachelor's degree. Not more than 30 semester hours may be taken in correspondence work.

Correspondence work is accepted when taken from institutions which are regionally accredited if the grade is of C quality or better. Southern Illinois University Carbondale operates an individualized learning program similar to correspondence programs in which students may earn academic credit. More information about individualized learning is under the Division of Continuing Education.

The University offers off-campus courses whenever (1) it is apparent there is a need and potential enrollment to justify scheduling, (2) it is possible to obtain a faculty member to instruct the class, and (3) adequate laboratory and library facilities are available.

Persons may enroll for off-campus work on an audit basis provided facilities are available. They must receive permission of the instructor to do so, and they must pay the same tuition as though they were registering for credit.

Further information may be obtained from the Division of Continuing Education.

CREDIT FOR MILITARY EXPERIENCE

Students who have served one year or more of active duty and who have received an honorable discharge may receive two hours of aerospace studies credit, two hours of physical education credit, and two hours of health education credit. Service of six months to one year may result in two hours of freshman aerospace studies or army military science credit. Completion of basic training will be awarded two hours of physical education credit.

Credit will be accepted for DANTES subject standardized courses within the limitations enforced for proficiency credit. No credit is allowed for college-level GED tests. In evaluating credit possibilities based upon formal service-school training programs, the recommendations of the American Council on Education as set forth in the U.S. Government bulletin, *Guide to the Evaluation of Educational Experiences in the Armed Forces*, are followed.

In order to receive credit for military service, veterans must present a copy of discharge or separation papers to the Office of Admissions and Records, Evaluations Department.

HIGH SCHOOL ADVANCED PLACEMENT PROGRAM

Through the High School Advanced Placement Program high school students who are qualified through registration in an advanced placement course in their high schools or through other special educational experiences may apply for advanced placement and college credit through the Advanced Placement Program of the College Board. To receive credit, students must earn at least a grade of 3 and in some cases a 4 or 5.

Transfer students who have AP credit transcribed as college courses from their previous institution will receive that course credit at SIUC as transfer credit.

The maximum credit granted through advanced placement examinations is thirty hours (fifteen for an associate degree). It is nonresident credit, does not carry a grade, and is not used in computing the students' averages. The thirty hour limit also includes any CLEP credit or proficiency credit that has also been earned.

Advanced classes which qualify for this purpose are offered in many high schools in specific subjects such as English composition, economics, foreign languages, history, biology, computer science, chemistry, government, mathematics, physics, and psychology. A national examination is given in each subject with the examinations administered through the Educational Testing Service. The examinations are prepared by a national committee of high school and college teachers and are intended to measure the achievement of the student and determine at what point the student should begin college work in the subject.

The credit to be granted at Southern Illinois University Carbondale is determined by the appropriate department. The credit will be validated after 12 hours credit of C work or better in residence at SIUC. The following is a list of courses for which a student may currently receive credit:

1. Art History: Art and Design 237 (3 semester hours)
2. Biology: Plant Biology 115 (3 semester hours)
3. Chemistry: With a grade of 3, Chemistry 200 (3 semester hours), with a grade of 4 or 5, Chemistry 200 and 210 (6 semester hours)
4. Comparative Government and Politics: Political Science 250 (3 semester hours)
5. Computer Science:
 - Computer Science A: Computer Science 202 (3 semester hours)
 - Computer Science AB: Computer Science 220 (3 semester hours)
6. Economics:
 - Microeconomics: Economics 240 (3 semester hours)
 - Macroeconomics: Economics 241 (3 semester hours)

7. English:

Language and Composition: English 101 (3 semester hours) with a score of 3 or 4 or English 120 (3 semester hours) with a score of 5. English 120 will complete the Core Curriculum composition requirement.

Literature and Composition: English 121 (3 semester hours)

8. European History: History 205a,b (6 semester hours)

9. Foreign Languages: credit to be determined in consultation with the chair of the Department of Foreign Languages and Literatures.

10. Government and Politics - U.S: Political Science 114 (3 semester hours)

11. Mathematics:

Calculus AB: Mathematics 150 (4 semester hours)

Calculus BC: Mathematics 150 and 250 (8 semester hours)

12. Music: credit to be determined in consultation with the director of the School of Music.

13. Physics:

Physics B: Physics 203a,b (6 semester hours) and Physics 253a,b (two semester hours) with a score of 4 or 5. A score of 3 qualifies the student to take a proficiency exam in the above courses.

Physics C, Part I: Physics 205a (3 semester hours) and Physics 255a (one semester hour) with a score of 4 or 5. A score of 3 qualifies the student to take a proficiency exam in the above courses.

Physics C, Part II: Physics 205b (3 semester hours) and Physics 255b (one semester hour) with a score of 4 or 5. A score of 3 qualifies the student to take a proficiency exam in the above courses.

14. Psychology: Psychology 102 (3 semester hours)

15. U.S. History: History 110 and 300 (6 semester hours)

Further information about the Advanced Placement Program may be obtained from the appropriate regional office of the College Board or by writing The CEEB, 45 Columbus Avenue, New York, New York 10023.

COLLEGE LEVEL EXAMINATION PROGRAM (CLEP)

Through the General Examinations of the College Level Examination Program (CLEP), students may apply for credit which will substitute for University Core Curriculum courses. Prior to the recording of CLEP credit on the student's transcript, the student must earn 12 hours of credit of C grade or above in residence at SIUC.

The scores listed below are the minimum required for credit. The scores listed are for tests taken after May 1989. Students who took exams prior to May 1989 should consult the 1988 *Undergraduate Catalog* for specific scores required. The exams listed below are the only exams which will be awarded University Core Curriculum credit. Also listed are the credit hours that may be awarded for each CLEP exam.

1. *Natural Science*. A score of 520 or above entitles the student to receive six semester hours credit of University Core Curriculum courses in Science.
2. *Social Sciences and History*. A score of 520 or above entitles the student to receive six semester hours credit of University Core Curriculum courses in Social Science.
3. *Humanities*. A score of 520 or above entitles the student to receive six semester hours credit of University Core Curriculum courses in Humanities.
4. *English Composition with Essay*. With a score of 565 or above on the CLEP English Composition with Essay examination, students will receive six semester hours of credit for University Core Curriculum English composition (English 120 and 102 for six semester hours).

A score of 540 to 564 entitles the student to receive (a) advanced placement in English 120 and (b) six semester hours of credit upon successful completion of English 120 with a grade of C or higher (three semester hours of English 120 and three semester hours of English 102).

5. *Mathematics*. A score of 580 or higher entitles the student to earn three hours of credit for Mathematics 113 which will fulfill the University Core Curriculum mathematics requirement.

If prior to taking the CLEP examination students have received a grade or audit in college level work in any discipline included in the CLEP exam, or if they have enrolled in such a course, they shall be ineligible for credit. An exception to this rule is made in the case of students who enroll in the Early Admission program. Such students receive university credit for courses taken during the Early Admission experience and for the CLEP credit earned.

Courses taken in the following disciplines are subject to the exclusion of CLEP credit for each examination listed.

Disciplines included in the science examination include plant biology, microbiology, physiology, zoology, chemistry, physics, earth science, geography and all University Core Curriculum Science courses.

The social sciences and history examination include the disciplines of western civilization: American history, Afro-Asian civilization, world history, political science, economics, anthropology, sociology, social psychology, social studies, and all University Core Curriculum Social Science courses.

The humanities examination includes the disciplines of literature: poetry, fiction, drama, non-fiction, creative writing; films and performing arts; art: art appreciation, art history, architecture (past and present); music: classical, modern or jazz; humanities: all general humanities courses; philosophy: aesthetics, ethics, general survey; and all University Core Curriculum Humanities courses.

The English composition with essay examination disciplines include rhetoric, composition, creative writing and English prefix courses.

The mathematics' disciplines include all college-level mathematics courses.

Students may be exempted from all University Core Curriculum requirements if they (1) pass all five CLEP General Examinations or their approved proficiency subject examinations before completion of 12 semester hours of college level credit. The minimum scores required are natural sciences, social sciences, and humanities, 520; English, 565; and mathematics, 580; and (2) complete the graduation option of the University Honors Program. Further information is available from the director of the University Honors Program.

CLEP examinations should be taken at one of the national testing centers and the results sent to the local CLEP coordinator. The results are then forwarded to the Office of Admissions and Records for evaluation.

Transfer students who have CLEP credit transcribed as college courses from their previous institution will receive that course credit at SIUC as transfer credit with the exception of English Composition.

For further information, students should consult with their academic adviser.

PROFICIENCY EXAMINATIONS

Through its proficiency examination program the University recognizes the importance of providing encouragement for academically talented students. Such students are permitted to make application to demonstrate the mastery of certain courses through proficiency examinations. Application forms are available at the departmental offices.

The following general rules govern the proficiency examinations for undergraduate credit.

1. Students who believe they are qualified to take a proficiency examination should check with the department offering the course to determine their eligibility to do so; students scoring in the top ten percent of ACT are particularly encouraged to avail themselves of this opportunity.
2. Credit not to exceed thirty hours (fifteen hours toward an associate degree), including credit through the College Board, Advanced Placement Program, and

- the College Level Examination Program may be earned through proficiency examinations. Credit will be considered nonresident. (A combined total of 40 hours may be earned through proficiency examinations and credit for work experience.)
3. All University Core Curriculum courses are available for proficiency credit, subject to specified restrictions.
 4. Upon passing proficiency examinations students are granted course credit and receive a *Pass* grade. Their records will show the name of the course, the hours of credit granted, and the notation "credit granted by proficiency examination." Students who fail a proficiency examination receive a *Fail* grade. This results in no penalty to the students. They will not receive credit and there will be no official record regarding the proficiency examination. However, the proficiency examination grade report form will be in the student's file for reference purposes.
 5. Students may not take proficiency examinations for the same course more than one time. Neither may they take a proficiency examination in a course in which they have previously received a grade. Students who are registered for a course may not receive credit by proficiency examination for that course unless they withdraw from the course by the date during the semester which would result in no course entry appearing on the transcript. This date is the end of the second week for a regular semester course, and a correspondingly shorter period for summer session or short courses. Individual departments may require the proficiency examination to be completed in advance of this date.
 6. No credit granted by proficiency examinations will be recorded until the student has earned at least 12 hours of credit of C grade or above in residence at the University.

CREDIT FOR WORK EXPERIENCE

Southern Illinois University Carbondale recognizes that there might well be a number of undergraduate programs for which work experience has a meaningful relationship. It, therefore, permits those undergraduate programs to grant credit for work experience that relates to the students' areas of specialization. The credit granted is to apply to the major program and is awarded only upon approval by the major departments. Credit earned by work experience is limited to 30 hours and any combination of credit for proficiency examinations and credit for work experience is limited to 40 hours. Credit granted for work experience is considered nonresident credit when granted for work that is not part of a regular instructional course. Students should consult with their major departments to see whether they approve credit for work experience.

Degrees Offered

Southern Illinois University Carbondale grants the following degrees:

Associate in Applied Science	Master of Music
Bachelor of Arts	Master of Public Administration
Bachelor of Fine Arts	Master of Science
Bachelor of Music	Master of Science in Education
Bachelor of Science	Master of Social Work
Master of Accountancy	Doctor of Business Administration
Master of Arts	Doctor of Philosophy
Master of Business Administration	Doctor of Rehabilitation
Master of Fine Arts	

In addition to the above degrees, the University offers undergraduate courses in preprofessional areas.

The School of Law and the School of Medicine offer professional degrees. Information about the School of Law may be obtained by writing the dean, School of Law, Southern Illinois University Carbondale, Carbondale, Illinois 62901. Information about the School of Medicine may be obtained by writing the dean, Southern Illinois University School of Medicine, P.O. Box 19230, Springfield, Illinois 62794-9230.

For information concerning academic programs on the advanced degree level, refer to the Graduate Catalog or write the dean, Graduate School, Southern Illinois University Carbondale, Carbondale, Illinois 62901.

Degree Requirements

ASSOCIATE DEGREE

Each candidate for an associate degree must complete a minimum of 60 hours of credit in approved courses. Each student must complete the residency requirement by completing a minimum of 15 semester hours of technical courses within a major for the Associate in Applied Science degree at Southern Illinois University Carbondale. Each student must maintain a C average for all work taken at Southern Illinois University Carbondale. In addition to the technical courses, each program requires certain University Core Curriculum courses to be taken. The degree-granting unit for the associate degree is the College of Applied Sciences and Arts.

BACCALAUREATE DEGREE

Each candidate for a bachelor's degree must complete the requirements listed below.

Hour Requirements. Each student must have earned a minimum of 120 semester hours of credit, although some programs require more. Of the 120 hours, at least 60 must be earned at a senior-level institution. All credit granted may be applied toward the 60-hour requirement unless the credit has specifically been designated as being from a two-year college or credit has been awarded based on attendance at a two-year school. Credit for work experience, CLEP, military credit, and proficiency examination credit awarded by an accredited senior-level institution are counted toward the 60-hour requirement. Mathematics 107 cannot be counted in the 120 hours required for graduation.

Residence Requirements. Each student must complete the residence requirement by taking the last year, which is defined as 30 semester hours, or by having three years of credit, which is defined as 90 semester hours at Southern Illinois University Carbondale. Only credit for those courses for which the student has *registered* and for which a *satisfactory grade has been recorded* at Southern Illinois University Carbondale may be applied toward the residence requirement hours. Students enrolled in programs offered for the military will have completed the residence requirement for the University upon completion of all courses required by the program.

Average Requirements. Each student must have a C average for all work taken at Southern Illinois University Carbondale and a C average for all major work taken at the University.

Forgiveness Policy. The University has adopted a policy for students whose only graduation problem concerns the C average for all work taken at the University. Such students may ask that the average be computed by one of the following methods: (1) by excluding from calculation of the grade point average a maximum of ten semester hours of D or F grade earned outside the major which was taken prior to the last 60 semester hours of completed work at the University or, (2) by earning a grade point average of 2.10 or higher for the last 60 semester hours of work completed at the University. The student will be graduated if the average meets either of the two al

ternatives. It should be noted that the two alternatives are offered as a means of computing the grade point average for graduation only and may not be used for any other purpose.

Course Requirements. Each student must meet the University requirements and the requirements of the academic unit, the major, and the minor, if required. The University Core Curriculum Requirements which are explained in Chapter 3 total 41 semester hours of credit although there are methods available to reduce the number for certain students. The requirements of each college and for the specific major and minor programs are explained in Chapter 5.

Second Bachelor Degree

DUAL DEGREE

A student may earn two different degrees (e.g., B.A. and B.S.) at the same time by having completed the requirements for each degree and a total of at least 150 semester hours. The application for graduation must include both degrees.

ADDITIONAL BACHELOR DEGREE

An additional bachelor's degree may be earned after the last degree was awarded, by completing at least 30 additional semester hours and the requirements for the degree as specified by the department, school and college. In some cases the department, school and college may require completion of some, or part of, the University Core Curriculum requirements of 41 semester hours.

If the student has earned a bachelor's degree from SIUC, then a minimum of 10 of the additional 30 hours must have been earned in residence at the University. If the student has not earned a bachelor's degree from SIUC, then at least 30 semester hours must be earned in residence at the University for the additional bachelor's degree.

Three-Year Baccalaureate Degree Program

It is possible to complete a baccalaureate degree program in three years by utilizing proficiency examinations. The equivalent of one year of credit (30 semester hours) may be earned by this method. If you desire to follow the three-year program you should make that fact known to your academic adviser at the earliest possible date so that your eligibility can be determined. A combination of programs may be employed to accumulate these 30 hours as described above in the section on Credit by Means Other than Classroom Attendance.

Preprofessional Programs

Preprofessional students may, subject to certain conditions, obtain a bachelor's degree after three years' work (90 semester hours) at Southern Illinois University Carbondale and one or more year's work in a professional school. During their three years of residence at the University, they need to have completed all requirements other than elective hours for the bachelor's degree which they are seeking.

In some cases the completion of major requirements is possible by their taking certain courses at the professional school, but this is permitted only upon the prior approval of the appropriate divisional head. Also, completion of at least one year of professional school with acceptable grades in an approved medical school, an approved dental school, an approved veterinary school, an approved law school, an accredited physical therapy school, a hospital plan approved by the University or an accredited school of osteopathy is required. In all cases, all University graduation requirements must be met. It is advisable for a student interested in this program to make the decision to seek a bachelor's degree before entering the professional school so that any questions may be clarified at an early date.

University Recognition of High Scholastic Achievement

Dean's List. At the end of each semester, a dean's list is prepared. The criteria for inclusion on the dean's list is established by each of the academic units. To be recognized as being on the dean's list, you must have been in attendance full-time (12 semester hours or more) and must have earned the SIUC average for the semester which has been specified by the academic unit. If at the end of the semester you have met the criteria established, a notation will appear on your grade slip and your academic record. The dean's list is recognition for a particular semester. It does not take into consideration your complete record.

University Honors Program. The University Honors program is explained in Chapter 4. Those who successfully complete the University Honors Program graduation option receive recognition on the academic record at the time the degree is recorded.

Departmental Honors. Honors courses, individual honors work, and honors curricula, all designed to serve the student with high scholastic potential, are offered by departments in the College of Agriculture, the College of Liberal Arts, and the College of Science. A departmental or academic unit honors program consists of no fewer than six nor more than fourteen semester hours in research or independent study which is counted toward the student's major. Some honors programs require a comprehensive examination at the end of the junior year and again at the end of the senior year. Grades may be deferred at the end of the first semester, but not from one school year to the next.

Scholastic Honors Day. Each spring a Scholastic Honors Day convocation is held to honor students exhibiting high scholastic achievement. Qualification for recognition is determined at the end of the third week of the spring semester. All students who have maintained a cumulative grade point average of 3.50 or higher, and who have been full-time students during the entire academic year, are honored at this time. A 3.50 grade point average is required for all work taken at Southern Illinois University Carbondale, and in the case of transfer students, the cumulative average must also be at least 3.50. Each academic unit has its own convocation and each student is recognized individually on this day.

A variety of professional, departmental, and fraternal honorary organizations offer recognition and membership based upon scholastic achievement. Election or selection to most of these organizations is noted at the Scholastic Honors Day ceremonies. The following are examples of some of these organizations: Alpha Epsilon Rho, Alpha Lambda Delta, Alpha Zeta, Beta Alpha Psi, Beta Beta Beta, Beta Gamma Sigma, Golden Key Honor Society, Eta Sigma Phi, Gamma Beta Phi, Kappa Delta Pi, Kappa Omicron Phi, Phi Alpha Theta, Pi Mu Epsilon, Pi Omega Pi, Sigma Tau Delta, Tau Beta Pi, and the Honor Society of Phi Kappa Phi. Selection to membership in these organizations is not reflected on the academic record or diploma.

Honors/Departmental Honors Recognition at the Time of Graduation The student's honors designation is determined by first measuring the SIUC gpa against the criteria, but cannot be higher than the designation determined by application of the criteria to the all-work gpa. Graduating students with scholastic averages for SIUC work of 3.90 or higher and who also have an all-work cumulative grade point average which is also 3.90 or higher receive *summa cum laude*. Students with 3.75 - 3.89 or higher SIUC scholastic averages and who also have an all-work cumulative grade point average of 3.75 or higher receive *magna cum laude*. Students with 3.50 - 3.74 or higher SIUC scholastic averages and who also have an all-work cumulative grade point average of

3.50 or higher receive *cum laude*. The all-work cumulative grade point average includes both SIUC work and graded transfer credit work accepted from other institutions, all of which are calculated according to SIUC policy. The honors that apply are recorded on the student's academic record and diploma at the time the degree is recorded.

Graduation Procedures

The academic requirements for the various baccalaureate degrees are listed in Chapter 5. Presented here are the procedures students expecting to graduate must follow.

Graduation ceremonies are held each year at the end of the spring semester, the summer session and presently at the end of the fall semester. Degree candidates must apply for graduation with the Office of Admissions and Records (graduate students with the Graduate School) by not later than the end of the first week of the semester in attendance before the expected graduation date. Candidates who plan to complete requirements at the end of the fall semester must apply for graduation by the end of the first week of the fall semester. Should there be no ceremony at that time, degree candidates who complete requirements will have that completion date indicated on their academic records and diplomas. Application forms are available in the Office of Admissions and Records (Graduate School for graduate students) and may be obtained by mail by writing that office.

A graduation application fee is established for all persons applying to receive degrees. The fee does not cover the rental fee for the cap and gown or the cost of the invitations. Both of these items are ordered through the University Book Store in the Student Center. Questions regarding the cap and gown and the invitations should be referred to the University Book Store. Typical deadlines to order for May, August or December graduations are April 1, July 1 and November 1 respectively.

In addition to completing the steps for application for graduation, students are responsible for determining that they are meeting all graduation requirements and have no outstanding financial obligation to the University. To assure that students are meeting the academic requirements, each academic unit provides a graduation check-up service through its academic advisement process, through which the satisfying of academic requirements can be verified. Even though the University does provide an academic check on graduating students, this is done primarily to be sure that it is graduating students who have met the requirements. The advising of individual students as to their progress is a service provided them and does not relieve students of their responsibility to make certain they are meeting the requirements. Students should check with their academic advisers as to the procedures they should follow in this matter as they approach graduation.

Graduating students who have outstanding financial obligations or delinquent accounts with the University will not receive either the diploma or transcripts until their accounts are paid.

Attendance at commencement is not compulsory. If you do not plan to attend, notification must be sent to the Office of Admissions and Records (graduate students to the Graduate School). This information is needed for seating arrangements and for mailing purposes.

GRADUATION APPEAL

The University has a Graduation Appeals Committee whose function it is to hear student's petitions to be permitted to graduate even though they have not satisfied all University graduation requirements. The committee hears only those cases involving University requirements for the associate or baccalaureate degree. Appeal relative to a major or academic unit requirement is through the appropriate administrative official. Ordinarily, the Graduation Appeals Committee will give consideration to an appeal only if there is tangible evidence that the matter at issue is of an unusual na-

ture and that it has resulted due to conditions beyond control of the student. Appeal is initiated through the Office of Admissions and Records and the student's academic dean.

Issuance of Transcripts

A transcript of the student's official educational record is issued by the Office of Admissions and Records under the following conditions: A transcript is sent, issued, or released only upon a student's request or with the student's explicit permission, except that such permission is not required when University faculty and administrative personnel or other educational institutions request transcripts for official purposes. In addition, requests will be honored from a philanthropic organization financially supporting a student and from a recognized research organization conducting educational research provided the confidential character of the transcript is protected. A transcript will be issued directly to a student upon request. The transcript will have the statement, Issued to the Student, on its face. Transcripts will be sent to recipients other than the student as requested, in writing, by the student. A transcript fee of \$2.00 will be payable in advance for every transcript the student requests. A transcript will not be sent, issued, or released if a student owes money to the University. For further information see the policy on the release of student information and access to student records in Chapter 7.

3 / University Core Curriculum



University Core Curriculum

Ann-Janine Morey, *Director*

The University Core Curriculum is pivotal to the university experience, and provides the enriching foundation for students to be successful in their major, and in life beyond the university. The Core Curriculum does not require that all students take exactly the same courses. However through a carefully selected menu of courses, this required program provides a solid grounding in the liberal arts and sciences, and promotes analytic and imaginative abilities that are essential for a life of inquiry, creativity and informed civic participation. To make the most of the Core Curriculum, students are required to complete their Foundation Skills courses (Composition, Speech, Mathematics) by the time they have completed 56 hours of coursework. Students are strongly advised to complete their Disciplinary Studies courses prior to enrolling in the Integrative Studies courses.

Further information about University Core Curriculum is available from the director of University Core Curriculum, College of Liberal Arts.

University Core Curriculum Goals

- 1. Expose students to the universe of human knowledge and to provide perspective across disciplines in an academically challenging course of studies.
- 2. Improve communication and numerical literacy.
- 3. Develop students' critical and analytical abilities.
- 4. Encourage intellectual maturity through interaction with instructors and peers.
- 5. Enhance understanding and appreciation of diverse cultures and environments.
- 6. Prepare students for ethical and responsible citizenship.

University Core Curriculum Requirements

I. Foundation Skills	12
Composition	6
English 101, to be completed with a grade of C or better, and English 102. English 120, if completed with a grade of C or better, will also complete the composition requirement. Linguistics 101 and 105 will complete the composition requirement for foreign students.	
Mathematics	3
Mathematics 110, 113 or any higher level mathematics course numbered 108 or above with the exception of 114.	
Speech Communication 101	3
II. Disciplinary Studies	23
Fine Arts	3
Select one course from the following: Art and Design 101, Cinema and Photography 101, English 203, History 201, Music 103, Theater 101.	
Human Health	2
Select one course from the following: Food and Nutrition 101, Health Education 101, Microbiology 202, Physical Education 101, Physiology 201-3, Zoology 202.	
Humanities	6
Select one course from Group I and II or select one Sequence.	

Group I: History 101a, 101b, Philosophy 103a, 103b, 105, Foreign Languages and Literatures 101, 102.	
Group II: English 121, 204, Philosophy 102, 104, 105, Foreign Languages and Literatures 230.	
Sequence I: History 101a and 101b	
Sequence II: English 121 and 204	
Sequence III: Philosophy 103a and 103b	
Science	6
Select one course from each group. ¹	
Group I: Chemistry 106, Geology 110, Physics 101 or Physics 103	
Group II: Plant Biology 115, Plant Biology 117 or Zoology 115	
Social Science	6
Select two courses from the following: (Students may take only one course in history to satisfy this area requirement.) Anthropology 104, Economics 113, Geography 103, History 110, 112, Political Science 114, Psychology 102, Sociology 108.	
III. Integrative Studies	6
Students are strongly advised to complete their Disciplinary Studies courses before enrolling in the Integrative Studies courses.	
Multicultural: Diversity in the United States	3
Select one course from the following: Art and Design 227, Administration of Justice 203, Anthropology 202, Black American Studies 215, English 205, History 202, 210, Linguistics 201, Mass Communication and Media Arts 204, Music 203, Philosophy 210, 211, Political Science 278, Sociology 215, 223, Speech Communication 201, Women's Studies 201.	
Interdisciplinary	3
Select one course from the following: Agriculture 300i, Art and Design 317i, Economics 302i, English 308i, Engineering 301i, 303i, Foreign Languages and Literatures 310i, Geography 303i, Geology 328i, History 304i, Journalism 306i, Liberal Arts 300i, Philosophy 303i, 307i, 308i, 309i, Plant Biology 301i, 303i, Political Science 372i, Sociology 304i, 305i, 306i, Speech Communication 301i, Zoology 312i.	
Total	41

¹An exception is made for majors in Civil Engineering, Electrical Engineering, Mechanical Engineering, Mining Engineering, Electrical Engineering Technology and Mechanical Engineering Technology. These majors are permitted to use two physical science courses to satisfy the science requirement.

Some programs and upper division academic units require specific Core Curriculum courses. A student may determine these requirements by referring to specific major requirements in Chapter 5.

MEETING UNIVERSITY CORE CURRICULUM REQUIREMENTS

Core Curriculum requirements may be met by any of the following, subject to the rules and limitations listed:

1. Completion of Core Curriculum courses with a satisfactory grade. Each student must complete the Foundation courses (Composition, Speech, Mathematics) or their approved substitutes prior to or upon completing 56 semester hours of coursework. The student, working with the academic advisor, shall have the responsibility of

meeting this requirement.

2. Transfer students may satisfy the requirements of the University Core Curriculum by successful completion of the Illinois Transferable General Education Curriculum. Transfer students who have not completed all Core Curriculum requirements prior to enrolling at SIUC can have their transcripts evaluated and comparable courses will be applied toward the University Core Curriculum requirements on a course by course basis.

3. Completion of an associate degree in a baccalaureate-oriented program in an accredited Illinois two-year institution provides that the student will (a) be accepted with junior standing and (b) be considered to have completed the University Core Curriculum requirements. Associate degrees earned at other than Illinois two year institutions will be reviewed by the Office of Admissions and Records. If the degree is determined to be baccalaureate-oriented and to have comparable content and credit hour criteria, the same benefits will be extended to those graduates. Credit from an accredited two-year institution is limited only by the provision that students must earn at least 60 semester hours of work at the University or at any other approved four-year institution and must complete the residence requirements for a degree from the University.

4. Students who have received a bachelor degree from an accredited institution will also be considered to have their University Core Curriculum complete.

Additional information concerning admission of a transfer student and the evaluation of transfer credit can be found in the sections of this catalog pertaining to those specific programs. (See Chapter 2 for admission and *University Core Curriculum and Transfer Students* in this chapter for more information on transfer of courses.)

5. Completion of departmental courses listed as substitutions for University Core Curriculum courses. Substitutions for Core Curriculum courses are limited to 12 hours.

6. Students who have started their post-secondary education at Southern Illinois University Carbondale or another accredited institution beginning Summer 1991 to Spring 1996 may use course credit from the former General Education program. All approved substitutions for the former program will be honored. Students may not use more than one General Education course to count for more than one University Core Curriculum requirement. Students should consult their collegiate unit advisors for further information regarding the translation of specific courses.

7. Completion of departmental courses listed as substitutions for University Core Curriculum courses or proficiency credit by examination for Core Curriculum courses or approved substitute courses. All Core Curriculum courses are eligible for proficiency credit, subject to specified restrictions. (See proficiency examinations in Chapter 2.) Students should contact the individual department for specific information.

8. Proficiency credit via General Examinations of the College Level Examination Program (CLEP) or Advanced Placement (AP). Credit given through the High School Advanced Placement Program, the College Level* Examination Program or proficiency examination will be nonresident, will not carry a grade, and will not be used in computing the student's grade point average. The credit will be validated after 12 hours credit in residence at Southern Illinois University Carbondale. A \$15 charge will be assessed for proficiency examinations taken at Testing Services.

University Core Curriculum Substitutions

List of Approved Substitutions. The department courses which have been approved as substitutions for University Core Curriculum courses are listed below. In no case does the departmental course substitute for more credit hours than the credit hours allowed in the comparable University Core Curriculum course.

UNIVERSITY CORE CURRICULUM	
CURRICULUM	APPROVED SUBSTITUTES
ANTH 202	ANTH 310g
AD 101	AD 207a or b, 237
CHEM 106	CHEM 140a, 200 and 201, or 222a
ECON 113	ECON 214, 215, 240, 241 or ABE 204
ENGL 205	ENGL 225, 325 or WMST 225
GEOL 110	GEOL 220 and 223 or 222 and 223
HIST 110	HIST 301
HIST 210	HIST 300
MICR 202	MICR 444 or ZOOL 214
MUS 103	MUS 357a or 357b
PHIL 102	PHIL 304 or 305
PHIL 104	PHIL 340
PE 101	PE 201
PHYS 101	PHYS 203a and 253a, 203b and 253b, 205a and 255a, 205b and 255b, or ASA 126
PHYS 103	PHYS 203a and 253a, PHYS 203b and 253b, PHYS 205a and 255a, or PHYS 205b ad 255b.
PHSL 201	PHSL 310
PLB 115	BIOL 200a or b, MICR 201, PLB 200, ZOOL 118, 220a or 220b
PLB 303I	ZOOL 404
ZOOL 202	MICR 444 or ZOOL 214
ZOOL 115	BIOL 200a or b, MICR 201, PLB 200, ZOOL 118, 220a or 220b
Humanities Group 1 or Group 2	A student may substitute up to a maximum of three credit hours with either a third semester of a foreign language or a first semester or more advanced course in Latin or Greek.

A maximum of twelve semester hours of approved coursework may be substituted for University Core Curriculum courses, with the exception of approved University Honors substitutions. A maximum of three semester hours of the University Honors Program may be substituted in each of the sub-areas of Fine Arts, Human Health, Multicultural: Diversity in the United States, and Interdisciplinary; and a maximum of six semester hours of the University Honors Program may be substituted in each of the sub-areas of Humanities, Science and Social Science, subject to the advance determination by the director of the University Honors Program and the approval of the University Core Curriculum Executive Council.

University Core Curriculum Courses

The first entry for each course is a three digit numeral plus, in some cases, a single letter which together with the subject area, serves to identify the course. The number followed by the dash represents the semester credit hours.

Next is the title, followed by a description of the course. If certain requirements must be satisfied before enrollment in a course, they are listed as prerequisites.

I. FOUNDATION COURSES

ENGL 100-3 Basic Writing. This course prepares students for the writing demands of English 101 and of the University. It teaches students processes for developing ideas, developing and organizing sentences and paragraphs, drafting, revising, and editing. Placement in this course is determined by a combination of ACT score and a writing placement exam, or by a diagnostic essay exam given the first week of class in English 101.

ENGL 101-3 English Composition I. [IAI Course: C1 900] This course provides students with the rhetorical foundations that prepare them for the demands of academic and professional writing. To this end, English Composition I teaches students how to recognize and deploy the strategies and processes that translate into effective written products in a variety of contexts for a variety of purposes. Class discussion and readings focus on the function and scope of literacy in professional and personal contexts. Prerequisite: English 100

with a minimum grade of C or placement by a combination of ACT score and Writing Placement Exam, or by diagnostic essay exam given the first week of this class.

ENGL 102-3 English Composition II. [IAI Course: C1 901] The second course in the two-course sequence of composition courses required of all students in the University. Using culturally diverse reading materials, the course focuses on the kinds of writing students will do in the University and in the world outside the University. The emphasis is on helping students understand the purpose of research, develop methods of research (using both primary and secondary sources), and report their findings in the appropriate form. Prerequisite: English 101 or equivalent with a minimum grade of C.

ENGL 120-3 Advanced Freshman Composition. [IAI Course: C1 901] This course fulfills the Foundation Skills composition requirement. Students will write critical essays on important books in the following categories: autobiography; politics; fiction; eyewitness reporting; and an intellectual discipline such as philosophy or science. Prerequisite: top 10 percent of the English section of the ACT or the qualifying score on the CLEP tests.

MATH 110-3 Non-Technical Calculus. The elements of differentiation and integration. The emphasis is on the concepts and the power of the calculus rather than on technique. It is intended to provide an introduction to calculus for non-technical students. This course does not count towards the major in mathematics. No credit hours for this course may be applied to fulfillment of any degree requirements if there is prior credit in Mathematics 140, 141 or 150. Prerequisite: three years of college preparatory mathematics including algebra I, algebra II, and geometry. In addition, students must have satisfactory placement scores or obtain the permission of the Department of Mathematics.

MATH 113-3 Introduction to Contemporary Mathematics. [IAI Course: M1 904] Elementary mathematical principles as they relate to a variety of applications in contemporary society. Exponential growth, probability, geometrical ideas and other topics. This course does not count towards the major in mathematics. Prerequisite: Mathematics 107 or three years of college preparatory high school mathematics including geometry and intermediate algebra. New students must present satisfactory placement scores or obtain the permission of the Department of Mathematics.

MATH 108 and above -3 Mathematics courses that may be used for the three hour University Core Curriculum mathematics requirement include all MATH prefix courses with the exception of Mathematics 107 and 114.

SPCM 101-3 Introduction to Oral Communications: Speech, Self and Society. [IAI Course: C2 900] This course provides theory and practical application relevant to students' development of basic oral communication competencies appropriate to a variety of contexts as situated in a culturally diverse world.

II. DISCIPLINARY STUDIES

Fine Arts

AD 101-3 Introduction to Art. [IAI Course: F2 900] A course in the comparative study of visual art in the history of civilizations. The course, using slide lectures, studio labs taught by graduate assistants, readings in textbooks, and examinations, raises the student's familiarity and practical knowledge of formal, social and critical issues germane to the visual arts. The courses pedagogical method is inclusive of diverse cultures and traditions by means of comparative and thematic analysis.

CP 101-3 History and Analysis of Cinema. [IAI Course: F2 905] An introduction to world cinema. To include film as entertainment, art, personal, expression, education and cultural/ideological expression. Modes of film including narrative, documentary, animation and experimental are studied.

ENGL 203-3 Film as Literary Art. [IAI Course: F2 905] This course examines the influential role literature has on the cinematic tradition both in the past and present. It intends to emphasize the artistic and visual debt cinema owes to literature by concentrating on major achievements and analyzing them accordingly.

HIST 201-3 Art, Music and Ideas in the Western World. [IAI Course: HF 902] The historical evolution of the visual arts, architecture and music in the context of society and literature, from ancient Greece to the present. It emphasizes the fundamental historical relationship of the different genres of human expression in Western culture.

MUS 103-3 Music Understanding. [IAI Course: F1 900] A study of the historical development of Western music and the listening skills necessary to perceive the expressive aspects of each style.

THEA 101-3 Theater Insight. [IAI Course: F1 907] Through lectures, discussions, project, text readings and written critiques, students examine how plays are written and produced, and how these plays reflect the people and cultures that produce them.

Human Health

FN 101-2 Nutrition: Contemporary Health Issues. This course integrates nutrition and promotion of health through prevention of disease and will answer questions found daily in the media regarding nutrition. Topics emphasized are functions of basic nutrients, impact of culture, gender, ethnicity, social environments and lifestyle on nutrition and health.

HED 101-2 Foundations of Human Health. This course is designed to examine contemporary health-related issues for all dimensions of the individual—physical, mental, social, emotional and spiritual—through focus on health promotion and disease prevention. Emphasis is placed on maintaining or improving quality of life by developing personal and social skills (decision-making, communication, stress management, goal setting) across health education content areas, as well as identifying and accessing appropriate health-related resources.

MICR 202-2 Human Genetics and Human Health. (Same as Zoology 202.) Acquaints the student with the role played by genetic information in human development and disease. Discussion topics will include genetics and human diversity, the interaction of genetic information and the environment, the concept of genetic disease, the mechanisms and ethics of gene therapy, and the possibilities of manipulating the genetic material.

PE 101-2 Current Concepts of Physical Fitness. To foster a thorough understanding of scientific principles of physical fitness and to enhance the ability to utilize physical exercise toward achievement of healthful living.

PHSL 201-3 Human Physiology. [IAI Course: L1 904] A course which relates the normal function of the human body to the disruptions which occur in a variety of disease states. Three lecture hours per week. Not open to students who have taken 310.

ZOOL 202-2 Human Genetics and Human Health. (Same as Microbiology 202.) Acquaints the student with the role played by genetic information in human development and disease. Discussion topics will include genetics and human diversity, the interaction of genetic information and the environment, the concept of genetic disease, the mechanisms and ethics of gene therapy and the possibilities of manipulating the genetic material.

Humanities

ENGL 121-3 The Western Literary Tradition. [IAI Course: H3 900] The course offers a critical introduction to some of the most influential and representative work in the Western literary tradition. Emphasis is on the interconnections between literature and the philosophical and social thought that has helped to shape Western culture.

ENGL 204-3 Literary Perspectives on the Modern World. [IAI Course: H3 900] The course offers a critical introduction to literary works that convey the complexity and challenge of social life in the twentieth century, using a set of representative topics as focal points: culture and community; gender and ethnicity; war and politics; and science and technology. Course may be taken as a sequence to 121, *The Western Literary Tradition*, but 121 is not a prerequisite for this course. Some sections may require viewing of films outside the regular class hours.

FL 101-3 Classical Civilization. [IAI Course: HF 902] A survey of classical civilization from the Minoans to the Roman Empire with three foci: Homeric and Classical Greece, and the Roman Experience as seen by its artists.

FL 102-3 East Asian Civilization. An introduction to East Asian Cultural traditions, literature, philosophy, history, art and social organization of China and Japan.

FL 230-3 Classical Mythology. [IAI Course: H9 901] An inquiry into the nature of myth and its relevance today while studying selected myths principally of the Greeks and Romans.

HIST 101-6 (3, 3) The History of World Civilizations. (a) [IAI Course: S2 912N] To industrialization **(b)** [IAI Course: S2 913N] Since the Age of Encounter. A survey of various civilizations in the world from prehistory to the present with particular attention to non-Western cultures.

PHIL 102-3 Introduction to Philosophy. [IAI Course: H4 900] This course introduces fundamental philosophical issues across a broad spectrum. Problems in metaphysics, epistemology and ethics will be among the areas explored. Emphasis throughout is on developing in the student an appreciation of the nature of philosophical questioning, analyzing and evaluating arguments reflecting on the nature of human existence.

PHIL 103-6 (3, 3) World Humanities. [IAI Course: HF 904N] This course will explore the rise, development and interaction of the major world civilizations as embodied in ideas and their expressions in religion, philosophy, literature and art. The great traditions of Near Eastern, European, Central Asian, Indian, Chinese and Japanese cultures will be examined. **(a)** The first semester will cover the beginnings of mythic symbolization, the development of moral and religious ideas in the early river civilizations, the dawn of philosophical reflection, and the rise and collapse of the unifying empires of Rome, the Gupta and the Han. **(b)** The second semester will cover the rebirth of civilizations in Islam, medieval Europe and China; their transformations in the modern era, especially due to science and technology; and the question of contemporary global coexistence and understanding. Philosophy 103a and 103b can be taken out of sequence.

PHIL 104-3 Ethics. [IAI Course: H4 904] Introduction to contemporary and perennial problems of personal and social morality, and to methods proposed for their resolution by great thinkers past and present.

PHIL 105-3 Elementary Logic. [IAI Course: H4 906] Study of the traditional and modern methods for evaluating arguments. Applications of logical analysis to practical, scientific and legal reasoning, and to the use of computers.

Science

CHEM 106-3 Chemistry and Society. [IAI Course: P1 903L] Exploration of the many implications that chemistry has upon modern society. Topics include air and water quality, global warming, acid rain, fossil, solar and nuclear fuels, nutrition and drugs. Three lectures per week except that every other week a three-hour lab is substituted for one of the lectures that week.

GEOL 110-3 Geology and the Environment. [IAI Course: P1 908L] Examines human interaction with geologic processes and hazards, including earthquakes, volcanoes, landslides and flooding; occurrences and availability of geologic resources, such as energy, water and minerals; and land-use planning, waste disposal and environmental impact. Two lectures and one laboratory per week.

PHYS 101-3 The Physics of Modern Communications: From Hi-Fi Sound to Laser Beams. The laws of nature necessary for understanding modern communications such as high fidelity, sound, radio, television and laser beams are presented. Topics include wave phenomena, sound, electricity, magnetism and light. Applications to sound recording and communications and the technical vocabulary necessary to critically evaluate high fidelity equipment are emphasized.

PHYS 103-3 Astronomy. Fundamental concepts of the physical sciences are used in the exploration of the observable universe. Studies include the history and techniques of astronomy, planets, stars, black holes, galaxies and cosmology. Lectures are supplemented by outdoor astronomical observations and/or indoor laboratory exercises.

PLB 115-3 General Biology. (Same as Zoology 115.) [IAI Course: L1 900L] Introduction to fundamental biological concepts for non-life science majors interested in learning about interrelationships of human, plant and animal communities. Integrated lecture and laboratory cover topics that include structure and function of living systems, reproduction and inheritance, evolution, biological diversity and environmental biology. Laboratory applies scientific methods to the study of living systems.

PLB 117-3 Plants and Society. [IAI Course: L1 901L] The relationship between plants and human society: historical and modern applications of plants to the human experience; centers of botanical origins and domestication of crop plants; theories on native plant and crop conservation; medicinal plants; making sound decisions on current and future problems of the environment; and plant genetics and biotechnology. Labs will include: hands-on experimentation; field work in natural plant communities, supermarkets and farmer's market; and visitations to plant research facilities. A field trip fee will be assessed.

ZOOL 115-3 General Biology. (Same as Plant Biology 115.) [IAI Course: L1 900L] Introduction to fundamental biological concepts for non-life science majors interested in learning about interrelationships of human, plant and animal communities. Integrated lecture and laboratory cover topics that include structure and function of living systems, reproduction and inheritance, evolution, biological diversity and environmental biology. Laboratory applies scientific methods to the study of living systems.

Social Science

ANTH 104-3 The Human Experience: Anthropology. [IAI Course: S1 900N] This course explores different human lifeways around the world, past and present. It investigates the question of what is universal to all humans and the myriad ways they differ, through studying modern people, the remains of past cultures through archaeology, and human origins and physical variation.

ECON 113-3 Economics of Contemporary Social Issues. An examination of the basic economic problems confronting U.S. society and the world today. The analysis is undertaken utilizing fundamental economic concepts with emphasis on alternative economic policies. Topics as diverse as health care, the national debt, crime, pollution and international trade are addressed.

GEOG 103-3 World Geography. [IAI Course: S4 900N] Examination of the world's major geographic patterns, the diversity of environments, cultures and economic activities, differences between developing and developed nations, interdependence of nations and regions through communication and trade, and in-depth assessment of representative environmental issues.

HIST 110-3 Twentieth Century America. The history of the United States since 1900. Surveys cultural, social, economic and political development, with special emphasis on domestic pluralism and changing international roles.

HIST 112-3 The Twentieth Century World. [IAI Course: S2 913N] The history of Europe, Asia, Africa and Latin America since 1900. Emphasis on political conflict, economic development, social change and cultural transformation in an increasingly integrated world.

POLS 114-3 Introduction to American Government and Politics. [IAI Course: S5 900] Examines the structure of American national government, the cultural context, and the operation of our political system. Focuses on constitutional foundations of American government, how difference in race, gender, and culture affect the political system, and the American attempt to deal with equality, liberty and order, conflict and cooperation.

PSYC 102-3 Introduction to Psychology. [IAI Course: S6 900] An examination of the variables related to the origins and modifications of human behavior using the viewpoints and techniques of contemporary psychology. Purchase of syllabus from local vendor is required.

SOC 108-3 Introduction to Sociology. [IAI Course: S7 900] An introduction to the sociological perspective on human behavior, the structure and processes involved in social relationships, social stratification and inequality, social institutions and social change. A survey of major areas of interest in sociology.

III. INTEGRATIVE STUDIES

Multicultural: Diversity in the United States

AD 227-3 History of African American Art. [IAI Course: F2 906D] A history of African American visual arts, with a brief examination of the arts of various nations of Africa and how they affected art in America. Craft arts, architecture, painting and sculpture will be considered from the slave trade era to the civil war era; the Harlem Renaissance and other 20th century movements to the present day.

AJ 203-3 Crime, Justice and Social Diversity. This course examines how social heterogeneity and inequality influence the processes involved in the definition and regulation of behavior through law, particularly the criminal law. Factors such as race, ethnicity, gender and class are related to definitions of crime and justice, and to the likelihood of being the victim of crime. The differential influence of the operations and outcomes of the criminal justice system on diverse groups in U.S. society is emphasized.

ANTH 202-3 American Cultures. [IAI Course: S1 904D] Through studying a variety of topics, such as family, education, health care, and popular culture, this course surveys the wide variety of cultures that make up the United States.

BAS 215-3 Black American Experience in a Pluralistic Society. A study and understanding of the evolution of issues of pluralism in contemporary African American society. Black American Experience in a Pluralistic

Society provides an interdisciplinary analysis of ideological and practical problems of racism, integration, class, equity, social institutions as they relate to the Black American experience.

ENGL 205-3 The American Mosaic in Literature. [IAI Course: H3 910D] The course offers a reading and analysis of narratives of cross-cultural contact through representative topics: the first encounters between Native Americans and Europeans; captivity, slavery and escape; immigration and city life; and cultures and families in transition. Emphasis is upon the various fictional and non-fictional literary forms in which the American pluralistic experience has been expressed.

HIST 202-3 America's Religious Diversity. [IAI Course: H5 905] An introduction to the basic concepts and histories of the world's religions and their place in American society. The purpose is to increase our understanding of cultural and religious diversity and how the various religious traditions inform our worldviews.

HIST 210-3 American Heritages. [IAI Course: S2 901] The American experience as expressed in key texts written prior to the Twentieth Century. Emphasis on American pluralism and controversies related to race, ethnicity, gender and class.

LING 201-3 Language Diversity in the USA. An examination of different varieties of English and the growing presence of other languages in the United States. Local, regional and national perspectives are used to review current patterns of language diversity and to explore the impact of language issues on policies and practices in education, the legal system and the work place.

MCMA 204-3 Alternative Media in a Diverse Society. The freedoms guaranteed in the First Amendment have resulted in a multitude of alternatives to the establishment media. These alternative media give voice to a range of communities ignored or suppressed by the dominant culture. Publications, alternative art spaces, film, radio and television messages and the groups and individuals that create them are examined. Not for graduate credit.

MUS 203-3 Diversity and Popular Music in American Culture. [IAI Course: F1 905D] A study of the development of American popular music, particularly in relation to the different cultural groups which spawned it.

PHIL 210-3 The American Mind. [IAI Course: HF 906D] This course will survey the diverse traditions, ideas and ideals that have shaped American culture in the past and today. Major works from Native American, African-American, feminist, Puritan, Quaker and American Zen Buddhist writers may be used as well as those from such intellectual movements as the Enlightenment, Transcendentalism and Pragmatism.

PHIL 211-3 Philosophy and Diversity: Gender, Race and Class. This course is a philosophical introduction to diverse perspectives within modern American culture. It will address through reading and discussion important contemporary moral and social issues from the perspective of nontraditional orientations including African American, Native American and American feminism. The resources of philosophy and other related disciplines such as psychology, sociology and literature will be used to develop a culturally enriched perspective on important contemporary issues.

POLS 278-3 Domestic Sources of American Foreign Policy. A general survey of the American foreign policy process. Special attention is given to the diversity of ethnic, racial and religious groups in the US and how these groups attempt to shape foreign policies in ways that meet their specific domestic and international interests.

SOC 215-3 Race and Ethnic Relations in the United States. [IAI Course: S7 903D] Current theory, research, and events in race-ethnic relations in the U.S., including the intersection of class, gender and sexuality. Topics include the European colonization of North America, dynamics of immigration, identity formation among ethno-racial groups, and political economy of racism.

SOC 223-3 Women and Men in Contemporary Society. (Same as Women's Studies 221) Examines theories of women's and men's roles in society. Surveys contemporary gender inequalities in the U.S. and developing countries. Special attention given to employment, race, sexual assault, feminist movements, alternative family/lifestyles and childrearing.

SPCM 201-3 Performing Culture. A critical examination of human communication—from everyday conversation to cultural formation—as performance. Lecture and discussion format with consideration of primary texts drawn from conversational transcript, multicultural literature and popular culture.

WMST 201-3 Multicultural Perspectives on Women. (Same as Sociology 223) This survey will cover important issues within women's studies in the United States and will be interdisciplinary and multicultural in nature. The topics will include language, media, education, family, labor, politics, literature and the arts. Issues of race, class, gender and culture will be examined consistently within each topic.

Interdisciplinary

AD 317I-3 Interdisciplinary Studies in Art. Specific aspects of the history of art are compared with aspects of our contemporary society. In alternate years, the course will treat different studies, e.g., "Contemporary Native American Art and Artists," "Women in the Visual Arts," and "Mythology in Art."

AGRI 300I-3 Social Perspectives on Environmental Issues. (Same as Liberal Arts 300i.) Case studies (e.g., rural village in developing nation; small town in the U.S.; city in developing nation) are used to learn how different societies and groups deal with their specific environmental issues, and how culture and economic factors affect their perspectives and actions.

ECON 302I-3 History and Philosophy of the World's Economic Systems. An investigation into how economic systems coexist with, and determine, or are determined by, the political and social structures in internationally diverse countries. Utilizing both economic concepts and an institutional approach the evolution of systems in nations such as Russia, Japan, the United States, China and other will be explored.

ENGL 308I-3 Interdisciplinary Studies in Literature. The course offers seminars in the major works that have shaped our understanding of the modern world through interdisciplinary awareness and study. Seminar topics are: Studies in Modernism; Irish Studies; The Politics of Empire; and Literary Studies of Film. Some

seminar sections may require the viewing of films outside the regular class hours. The topics will be offered on a rotational basis.

ENGR 301I-3 Humans and Their Environment. [IAI Course: L1 905] An introduction to the study of the relationship between humans, resource consumption, pollution and the resulting environment. The effects of current human pollution and resource consumption on the environmental quality of the future. The interrelationship of human population, resource consumption and pollution. Methods of minimizing resource consumption and human pollution through both technological controls and changes in human behavior.

ENGR 303I-3 The Role of Energy in Society. Lectures, discussions and class projects directed at understanding the role of energy, power and related concepts in society; in the past, the present and the future. Review of current energy resources and use patterns, as well as projections for new energy conservation techniques and the development of alternative energy technology. An overview of worldwide energy needs, seeking to identify future limits on energy use attributable to environmental, economic, political and other technological and evolutionary constraints. Prerequisite: satisfactory completion of three hours of Core Curriculum Science recommended.

FL 310I-3 Classical Themes and Contemporary Life. [IAI Course: H9 900] Specific aspects of Classical Civilization are compared with aspects of our own society. In alternate years, the course will treat different themes: Drama's Birthplace; Classical Athens; Roman Heroes and Anti-Heroes, or Athletics, Sports and Games in the Ancient World.

GEOG 303I-3 The Earth's Biophysical Environments. [IAI Course: P1 909L] Deals with components of the biophysical environment, including weather and climate, tectonics and geomorphic, soil-forming and ecologic processes as they create dynamic landscapes. Environmental issues tied to landscapes are presented and debated. Laboratories combine field studies, data analysis, computer simulations and discussions about issues related to environmental processes.

GEOL 328I-3 Dinosaurs and the Age of Reptiles. What we know about dinosaurs - their fossils, morphologies, origin, types, relatives, relationships, lifestyles, distributions (in time, in space, in paleoenvironments), biotic associates and extinction; and how we know it - interdisciplinary application of basic scientific concepts of geology, paleobiology, paleoecology and paleoenvironmental analysis.

HIST 304I-3 Islamic Religion and Culture. [IAI Course: H5 904N] Examines religious, cultural and socio-political developments in the Islamic world from the Prophet Muhammad to the present. Includes modernization and current problems in global contexts.

JRNL 306I-3 International Media Systems. An overview of the mass media systems of the world; comparison of the theoretical models and actual practice. Explores differing conceptual models of the mass media and their underlying philosophies; actual operations of different press systems with specific economic, political and cultural structures including historical development and current status.

LAC 300I-3 Social Perspectives on Environmental Issues. (Same as Agriculture 300i.) Case studies (e.g., rural village in developing nation; small town in the U.S., city in developing nation) are used to learn how different societies and groups deal with their specific environmental issues, and how culture and economic factors affect their perspectives and actions.

PHIL 303I-3 Philosophy and Literature. [IAI Course: H9 900] An examination of (1) literary and other artistic works which raise philosophic issues and (2) philosophic writings on the relationship between philosophy and literature. Possible topics include: sources of and contemporary challenges to the traditional Western idea that literature cannot be or contribute to philosophy; the role of emotion, imagination and aesthetic value in philosophic reasoning; the role of literature in moral philosophy; philosophic issues of interpretation.

PHIL 307I-3 Philosophy of Science, Nature and Technology. Interdisciplinary study of major humanistic critiques of technology, science and nature; analysis of topics such as ecology, the information revolution, aesthetics and ethics in various branches of science and technology, relation of science to technology.

PHIL 308I-3 Asian Philosophy. [IAI Course: H4 903N] An examination of some major Asian philosophy traditions, such as Vedanta, Buddhism, Confucianism, Taoism, or Sufism, in their historical and social contexts.

PHIL 309I-3 Philosophy of Politics, Law and Justice. An exploration of classical and modern theories of law and justice with special attention to their implications for important contemporary political issues.

PLB 301I-3 Environmental Issues in the Contemporary World. Fundamental biological and ecological processes important in the individual, population and community life of organisms integrating with the philosophical and ethical relationships of the contemporary, domestically diverse human society are examined. Emphasis is placed on a pragmatic understanding of environmental issues. Prerequisite: strongly recommend completion of University Core Curriculum Science requirements.

PLB 303I-3 Evolution and Society. An introduction to the basics of biological evolution and the effect of biological evolution on society. Historical and modern interpretations of biological evolution on the human experience will be developed. This will include legal, political, religious, scientific, racist, sexist, philosophical and educational aspects. Topics will be covered via discussions, presentations, papers and debates. Prerequisite: strongly recommend completion of University Core Curriculum Science requirements.

POLS 372I-3 International Political Economy. Examines the interaction of politics and economics and of states and markets at the international level. Special attention to inequalities of wealth and power and to the politics of international trade, finance, investment, production, energy, transportation, information, technology and development.

SOC 304I-3 Families of the World. [IAI Course: S7 902] Surveys uniformity and diversity to family life among the world's societies, and examines the theories concerning family patterns.

SOC 305I-3 History of Crime in England and America. Application of sociological perspective to the study of English and American crime and criminal justice, 1600-present. Examines effects of culture, social structure, and social change on criminal behavior and social control.

SOC 306I-3 Popular Culture in Society. Sociological analysis of the meaning of popular culture, the organization of popular cultural production and the relationship between popular culture and social change.

SPCM 301I-3 Communication Across Cultures. This course provides an introduction to communication between and among people from different cultures, focusing on the application of intercultural communication theory and research. Class assignments and exercises examine everyday encounters with individuals from different races, ethnicity, religions, gender, ages, sexual orientations and physical abilities.

ZOOL 312I-3 Conservation of Natural Resources. [IAI Course: L1 905] This course teaches an ecological perspective on current issues in natural resource conservation and management. Economic, political and social pressures that influence consumptive use of natural resources are considered, along with ecological consequences of resource exploitation. A conservation perspective is developed in which humans are viewed as a participants in, rather than masters of the natural environment.

Multicultural Applied Experience Option

The Multicultural Applied Experience course is a one unit, elective credit intended to enhance the diversity requirement in the University Core Curriculum and deepen student and faculty involvement in extra-academic service. Students who elect this unit may also wish to sign up for Saluki Volunteers. The Saluki Volunteers can evaluate the Multicultural Applied Experience and those hours may be counted toward the 30 hour minimum per year for participation in the Volunteers. In addition to having their Volunteer hours noted on their transcript, the student will receive an involvement transcript from the Volunteers documenting their activities. This can be added to the resume. For more information about Saluki Volunteers, contact Saluki Volunteers in Student Development.

Multicultural Applied Experience Courses

An applied experience, service-oriented credit in diversity involving a group different from the student who elects the credit. Difference can be manifested by things such as age, gender, ethnicity, nationality, political affiliation, race or class. Students can sign up for the one credit experience in the same semester they fulfill the multicultural requirement for the University Core Curriculum, or the credit can be coordinated with a particular Core Course on American diversity, although neither is a requirement. Students should consult individual departments for course specifications regarding grading, work requirements, and supervision. A student may take this course only once.

ANTH 298-1 Multicultural Applied Experience. An applied experience, service-oriented credit in American diversity involving a group different from the student's own. Difference can be manifested by age, gender, ethnicity, nationality, political affiliation, race, or class. Students can sign up for the one-credit experience in the same semester they fulfill the multicultural requirement for the University Core Curriculum or coordinate the credit with a particular Core course on American diversity, although neither is required. Students should consult the department for course specifications regarding grading, work requirements and supervision.

AVM 298-1 Multicultural Applied Experience. An applied experience, service-oriented credit in American diversity involving a group different from the student who elects the credit. Difference can be manifested by things such as age, gender, ethnicity, nationality, political affiliation, race, or class. Students can sign up for the one credit experience in the same semester they fulfill the multicultural requirement for the University Core Curriculum, or the credit can be coordinated with a particular Core Course on American diversity, although neither is a requirement. Students should consult the respective department for course specifications regarding grading, work requirements and supervision. Prerequisite: Approval of the site representative, faculty supervisor and department chair.

ELM 298-1 Multicultural Applied Experience. An applied experience, service-oriented credit in American diversity involving a group different from the student who elects the credit. Difference can be manifested by things such as age, gender, ethnicity, nationality, political affiliation, race, or class. Students can sign up for the one credit experience in the same semester they fulfill the multicultural requirement for the University Core Curriculum, or the credit can be coordinated with a particular Core Course on American diversity, although neither is a requirement. Students should consult the respective department for course specifications regarding grading, work requirements and supervision. Prerequisite: Approval of the site representative, faculty supervisor and department chair.

FN 298-1 Multicultural Applied Experience. This course is designed to provide multicultural experience in food selection, eating habits, meal patterns and food preparation. Students will interact with community members of various ethnicity throughout the semester. Shopping and cooking projects will provide firsthand experience. Prerequisite: concurrent or prior registration in one of the following: Anthropology 202, History 210, Philosophy 210, 211 or Sociology 215.

FL 298-1 Multicultural Applied Experience. An applied experience, service-oriented credit in American diversity involving a group different from the student's own. Difference can be manifested by age, gender, ethnicity, nationality, political affiliation, race or class. Students can sign up for the one-credit experience in the same semester they fulfill the multicultural requirement for the University Core Curriculum or coordinate the credit with a particular Core course on American diversity, although neither is required. Students should consult the department for course specifications regarding grading, work requirements and supervision.

HCM 298-1 Multicultural Applied Experience. An applied experience, service-oriented credit in American diversity involving a group different from the student who elects the credit. Difference can be manifested by things such as age, gender, ethnicity, nationality, political affiliation, race or class. Students can sign up for the one credit experience in the same semester they fulfill the multicultural requirement for the University Core Curriculum or the credit can be coordinated with a particular Core course on American diversity, although neither is a requirement. Students should consult the Department of Health Care Professions for course specifications regarding grading, work requirements and supervision. Prerequisite: Health Care Professions major only and junior standing.

LING 298-1 Multicultural Applied Experience. An applied experience, service-oriented credit in American diversity involving a group different from the student's own. Difference can be manifested by age, gender, ethnicity, nationality, political affiliation, race or class. Students can sign up for the one-credit experience in the same semester they fulfill the multicultural requirement for the University Core Curriculum or coordinate the credit with a particular Core course on American diversity, although neither is required. Students should consult the department for course specifications regarding grading, work requirements and supervision.

SOC 298-1 Multicultural Applied Experience. An applied experience, service-oriented credit in American diversity involving a group different from the student's own. Difference can be manifested by age, gender, ethnicity, nationality, political affiliation, race, or class. Students can sign up for the one-credit experience in the same semester they fulfill the multicultural requirement for the University Core Curriculum or coordinate the credit with a particular Core course on American diversity, although neither is required. Students should consult the department for course specifications regarding grading, work requirements and supervision. Graded Pass/Fail only.

Capstone Option

The Capstone Option is for the transfer student who has earned an Associate in Applied Science degree or the equivalent certification and whose needs can be met within one of the participating departments. It is a two-year program that gives maximum credit for previous academic and work experiences in the student's occupational field. The Capstone Option's purpose is to provide an opportunity for students to add to the marketable occupational skills and competencies which they have already acquired.

Key features of the Capstone Option are: (1) it is for selected occupational students who have changed their educational and occupational goals; (2) it is an alternative baccalaureate degree program involving no more than two additional years of college at a four-year institution; (3) it seeks to recognize similar objectives in both two-year occupational programs and four-year baccalaureate degree programs; (4) it seeks to recognize similar objectives in certain work experiences and in four-year baccalaureate degree programs; and (5) it provides a unique opportunity for developing secondary and post-secondary occupational teachers who possess strong work experience and training in a variety of technical specialties and sub-specialties.

The Capstone Option at Southern Illinois University Carbondale can lead to the baccalaureate degree in any of the following areas:

College of Agriculture
 Agribusiness Economics
 Animal Science
 General Agriculture
 Agricultural Education and Information
 Agricultural Mechanization
 Agricultural Production
 Plant and Soil Science
 College of Education
 Clothing and Textiles
 Workforce Education and Development

Administrative Services Training
 Education, Training and Development (non-certification options)
 Vocational Teacher Development
 College of Engineering
 Industrial Technology
 College of Liberal Arts
 Paralegal Studies for Legal Assistants
 College of Applied Sciences and Arts
 Advanced Technical Studies
 Architectural Studies
 Automotive Technology

Aviation Management	Health Care Management
Aviation Technologies	Information Systems Technologies
Dental Hygiene	Mortuary Science and Funeral Service
Electronics Management	Radiologic Sciences
Fire Science Management	
(off-campus program only)	

REQUIREMENTS FOR THE BACCALAUREATE DEGREE THROUGH CAPSTONE

A student completing the degree through the Capstone Option must complete the hour requirements, residence requirements, and average requirements required for all bachelor degrees. These requirements are explained in Chapter 2. The course requirements for the Capstone Option are explained below.

The following University Core Curriculum requirements must be satisfied:

University Core Curriculum Requirements for Capstone	30
Science	6
Select one course from each group. ¹	
Social Science	6
Select two courses from the approved list. Only one course from history may be selected. ¹	
Humanities	3
Select one course from either group. ¹	
Fine Arts	3
Select one course from the approved list. ¹	
Multicultural: Diversity in the U.S.	3
Select one course from the approved list. ¹	
English Composition	3
English 101 or equivalent with a grade of C or better.	
Speech Communication 101	3
Mathematics	3
Mathematics 110, 113 or any higher level Mathematics course numbered 108 or above with exception of 114.	
Minimum Total	30

¹For explanation of groups or list of approved courses see University Core Curriculum requirements above.

In addition to the University Core Curriculum requirements, the student must complete the requirements specified in a contract to be developed between the student and the academic unit or department representative. The contract must include two years of work (60 semester hours) after receiving the associate degree or equivalent certification and must list the remaining requirements for the baccalaureate degree.

PROCEDURES FOR APPLYING TO THE CAPSTONE OPTION

In order to qualify for admission to the Capstone Option, the student must:

1. Have made application for admission to Capstone by not later than the end of the first semester in the bachelor degree program. The student may not have earned more than twelve hours toward the baccalaureate degree program prior to approval for Capstone. A student registered in a program in which Capstone is not available who changes to a program which does participate, must submit the Capstone application by no later than the end of the first semester in the new bachelor program. The student who has been approved for Capstone in one program, who changes to another program which also participates in Capstone, must receive approval of the new program for continued participation in Capstone by not later than the end of the first semester in the new program and no more than twelve semester hours toward the new baccalaureate program.

2. Have earned an associate degree, or equivalent certification, in a non-baccalaureate-oriented program of 60 semester hours prior to the completion of the first semester in the baccalaureate program at Southern Illinois University Carbondale. Equivalent certification, for the purposes of Capstone admission, is defined as the formal completion of a technically oriented program of two years duration (60 semester hours), resulting in the receipt of an equivalent associate degree, certificate, diploma, or other documentation as provided by the student's educational institution.

3. Have submitted all documentation of work prior to the associate degree by no later than the end of the second semester or session at the University. This documentation includes all official transcripts from institutions previously attended and may include test reports, evaluation of military experience or whatever other kind of training has been used to award the associate degree. Official transcripts from previously attended institutions must not be more than thirty days old when received by SIUC.

4. Have earned a minimum grade point average of 2.25 (4.0 scale) as calculated by the University grading regulations. The grade point average will be calculated on all accredited work prior to the awarding of the associate degree. An applicant denied admission to Capstone as a result of a low average upon completion of the associate degree may not be considered again after raising the average in subsequent work (credit beyond the associate degree).

5. Have entered a bachelor degree program at the University which participates in the Capstone Option. The student must not have earned more than 12 semester hours in the baccalaureate major prior to Capstone approval.

6. Have received certification from the academic unit at the University that a bachelor degree program can be completed within the 60 semester hours of additional work required for the bachelor degree. The certification will be determined after the Capstone application has been filed.

Copies of the application for admission to the Capstone Option are available in the Academic Support Programs Office in Admissions and Records.

University Core Curriculum and Transfer Students

For students who enter SIUC summer 1998 and after, there are four different ways to complete Core Curriculum requirements. Enrollment in more than one Illinois institution can satisfy lower-division general education requirements in the following ways:

1. Completion of an Associate in Arts or an Associate in Science degree at a public Illinois community college;
2. Completion of the total Illinois Transferable General Education Core Curriculum as certified by a participating Illinois Articulation Initiative institution prior to admission to Southern Illinois University;
3. Completion of SIUC's Core Curriculum requirements; or
4. Admission and completion of SIUC's Capstone Option for students with an AAS.

The Compact Agreement

SIUC has recognized the Illinois regionally accredited community college transferable baccalaureate oriented Associate of Arts or Associate of Science degrees under the Compact Agreement since 1970. SIUC will continue to recognize the baccalaureate oriented associate degree (A.A. or A.S. degree) under the Illinois Articulation Initiative. The Associate in Engineering Science (A.E.S.) and the Associate in Fine Arts (A.F.A.) does not carry the same benefits as the A.A. and A.S. as described below.

Illinois community college graduates who hold an A.A. or an A.S. will be:

- 1) admitted to SIUC if enrollment occurs after earning the associate degree and prior to coursework attempted at another institution;

- 2) considered a junior in class standing; and
 - 3) evaluated as having completed the SIUC University Core Curriculum (general education) requirements required for graduation purposes.
- Major courses including major core curriculum requirements may not automatically be completed by earning the AA or AS.

Students Without an AA or AS From an Illinois Accredited Community College

Transfer students who have not earned a baccalaureate oriented Associate of Arts or Associate of Science degree from an accredited Illinois public community college prior to attending SIUC, but who have been certified by a participating Illinois Articulation Initiative institution as having completed the Illinois Transferable General Education Core Curriculum will be considered as having fulfilled the SIUC Core Curriculum requirements required for general graduation purpose if their general education component has a minimum of 37 semester (56 quarter) hours.

Transfer students who have not been certified as stated above, or students who have been certified with less than 37 semester hours in their general education component, must complete the SIUC Core Curriculum requirements.

SIUC will waive a fraction of a semester hour of an SIUC Core Curriculum course requirement for a satisfactorily completed and approved course from an accredited institution participating in the Illinois Articulation Initiative. Students must complete a minimum of 37 semester (56 quarter) hours to satisfy the SIUC Core Curriculum requirements.

Transfer students with an AA or AS from a regionally accredited out-of-state institution or an Illinois institution that does not participate in IAI, who present 37 or more semester hours of general education credit prior to initial enrollment will be evaluated to determine completion of the SIUC Core Curriculum model. If the student has completed the SIUC model, the student will be considered as having fulfilled the SIUC Core Curriculum requirements.

The transfer student who has not fulfilled the Illinois Core, the SIUC model, or does not have an Illinois AA or AS prior to enrollment, will be required to complete the SIUC Core Curriculum requirements (general education.)

Transfer students who have earned the Associate in Applied Science (AAS) degree may qualify to complete their University Core Curriculum requirements under the Capstone Option. Information about the Capstone Option and the participating majors is explained in a previous section of this chapter.

Evaluation of courses taken at regionally accredited colleges and universities will be completed by the staff in Academic Support Programs of Admission and Records at the time of the student's admission to the University. Any Illinois Transferable General Education Core (IAI) course that is articulated to a SIUC core curriculum course will be utilized toward completion of the SIUC Core Curriculum. Transcripts submitted for evaluation must not have an issuing date that is more than thirty days old.

The Illinois Transferable General Education Core (IAI) is in effect for students who begin an associate or baccalaureate degree as first-time freshmen Summer 1998 and thereafter. Effective Summer 1998, students transferring from SIUC to another institution may request that SIUC audit their record for completion of the Illinois Transferable General Education Core. If the core is complete, the student will receive certification of that completion on the transcript. The student must have 37 or more semester hours of general education credits prior to this request.

SIUC reentry students who have not earned an Illinois baccalaureate oriented AA or AS degree prior to reentry to SIUC, or students concurrently enrolled at another institution while attending SIUC, must complete the SIUC Core Curriculum requirements. These SIUC native students may not use the IAI to complete their SIUC Core Curriculum requirements. Concurrently enrolled students should seek advice from Academic Support Programs in Admissions and Records on acceptable course equivalents to the SIUC Core Curriculum or check the web site: <www.siu.edu/oar>.

Illinois Articulation Initiative

SIUC is a participant in the Illinois Articulation Initiative (IAI), a statewide agreement that allows transfer of the completed Transferable General Education Core Curriculum between participating institutions. Completion of the General Education Core Curriculum at any participating college or university in Illinois assures transferring students that general education requirements for an associate or lower division general education requirements for the bachelor degree have been satisfied. This agreement is in effect for students entering an associate or baccalaureate degree-granting institution as a first-time freshman in summer 1998 (and thereafter).

Students who have completed the Illinois Transferable General Education Core and have been certified as complete by the sending institution will have completed the University Core Curriculum requirements at Southern Illinois University Carbonale.

Certification of the Illinois Transferable General Education Core must contain the minimum requirements shown below:

ILLINOIS TRANSFERABLE GENERAL EDUCATION CORE CURRICULUM MINIMUM REQUIREMENTS

Area	Number Courses	Semester Hours	Special Requirements
Communication	3	9	
Mathematics	1	3	
Physical & Life Sciences ¹	2	7	One Life Science and one Physical Science of which one must have a lab.
Humanities & Fine Arts	3	9	One Humanities, One Fine Arts
Social & Behavioral Science	3	9	Two Disciplines must be represented (Disciplines: Anthropology (S1), History (S2), Economics (S3), Geography (S4), Political Sciences (S5), Psychology (S6), Sociology (S7), Social Psychology (S8), Interdisciplinary Social Sciences (S9).
Total	12	37	

¹ Students with appropriate preparation may substitute an initial major course designed for science majors.

Transfer students' courses from 1996 and forward will be audited to determine if their general education courses will fulfill the model above.

Students Transferring to Another Institution

Students may take SIUC courses to complete the Illinois Transferable General Education Core Curriculum prior to transferring to another participating institution. The following IAI codes identify qualifying general education courses:

IAI C (Communications)
IAI F (Fine Arts)

- IAI H (Humanities)
- IAI L (Life Sciences)
- IAI M (Mathematics)
- IAI P (Physical Sciences)
- IAI S (Social Sciences)

Students who do not complete the Illinois Transferable General Education Core Curriculum must meet the receiving institution’s general education requirements. Credit for individual courses completed in the Illinois Transferable General Education Core Curriculum will be applied towards fulfillment of the receiving institution’s general education requirements so long as the receiving institution requires that coursework.

The courses listed below are the SIUC courses that have been approved for inclusion in the Illinois Transferable General Education Core. These same courses can be found throughout the catalog in their major departments and are designated by [IAI: course number]. Major IAI courses that can be used for lower division major requirements may also be found in their major departments.

IAI GENERAL EDUCATION CORE COURSES OFFERED AT SIUC

IAI Course Number and Title	SIUC Course	SIUC Course Title
C1 900 (Writing Course Sequence)	ENGL 101	English Composition I
C1 901 (Writing Course Sequence)	ENGL 102	English Composition II
C1 901 (Writing Course Sequence)	ENGL 120	Honors Composition
C1 901 (Writing Course Sequence)	LING 105	Intermediate Comp
C2 900 (Oral Communication)	SPCM 101	Intro: Oral Comm
F1 900 (Music Appreciation)	MUS 103	Music Understanding
F1 901 (Music History and Literature I) ¹	MUS 102	Survey Music Literature
F1 905D (Ethnic Tradition Am Music)	MUS 203	Diversity/Popular Music
F1 907 (Theatre Appreciation)	THEA 101	Theater Insight
F2 900 (Art Appreciation)	AD 101	Introduction to Art
F2 900 (Art Appreciation)	AD 237	Meaning in Visual Arts
F2 901 (History of Western Art I)	AD 207A	Intro to Art History I
F2 905 (Film History and Appreciation)	CP 101	Hist/Analysis of Cinema
F2 905 (Film History and Appreciation)	ENGL 203	Film as Literary Art
F2 906D (Ethnic Traditions in Am Art)	AD 227	African Am Art
H1 900 (Foreign Language IV)	CHIN 201B	Interm Chinese
H1 900 (Foreign Language IV)	CLAS 201B	Interm Greek II
H1 900 (Foreign Language IV)	CLAS 202B	Interm Latin II
H1 900 (Foreign Language IV)	FR 201B	Interm French
H1 900 (Foreign Language IV)	GER 201B	Interm German
H1 900 (Foreign Language IV)	JPN 201B	Interm Japanese II
H1 900 (Foreign Language IV)	RUSS 201B	Interm Russian
H1 900 (Foreign Language IV)	SPAN 201B	Interm Spanish
H3 900 (Introduction to Literature)	ENGL 121	Western Lit Tradition
H3 900 (Introduction to Literature)	ENGL 204	Lit Perspectives
H3 900 (Introduction to Literature) ¹	ENGL 209	Forms of Literature
H3 901 (Introduction to Fiction) ¹	ENGL 210	Introduction to Fiction
H3 902 (Introduction to Drama) ¹	ENGL 201	Introduction to Drama
H3 903 (Introduction to Poetry) ¹	ENGL 202	Introduction to Poetry
H3 910D (American Ethnic Literature)	ENGL 205	Am Mosaic in Literature
H3 911D (Literature and Gender)	ENGL 225	Women in Literature
H3 911D (Literature and Gender)	WMST 225	Women in Literature
H4 900 (Introduction to Philosophy)	PHIL 102	Intro to Philosophy
H4 904 (Ethics)	PHIL 104	Ethics
H4 906 (Intro to Logic/Critical Thinking)	PHIL 105	Elementary Logic

IAI Course Number and Title	SIUC Course	SIUC Course Title
H5 905 (Religion in American Society)	HIST 202	Am Religious Diversity
H9 901 (Mythology)	FL 230	Classical Mythology
HF 902 (Western Humanities I)	FL 101	Classical Civilization
HF 902 (Western Humanities I)	HIST 201	Art, Music, Ideas
HF 904N (Non-Western Humanities)	PHIL 103A	World Humanities I
HF 906D (Am Ethnic Culture Expression)	PHIL 210	The American Mind
L1 900L (General Education Biology)	PLB 115	General Biology
L1 900L (General Education Biology)	ZOOL 115	General Biology
L1 901L (Plants and Society)	PLB 117	Plants and Society
L1 901L (Plant and Society)	PLB 200	General Plant Biology
L1 902 (Animals and Society) ¹	ANS 121	Intro Animal Science
L1 902L (Animals and Society)	ZOOL 118	Animal Biology
L1 903L (Microbes and Society)	MICR 201	Elem Microbiology
L1 904 (Human Biology)	PHSL 201	Human Physiology
L1 904L (Human Biology) ¹	PHSL 208	Lab in Physiology
L1 905 (Environmental Biology)	ZOOL 312I	Consrvt Natrl Resources
L1 906 (Heredity and Society)	ZOOL 214	Human Heredity
M1 900 (College-Level Calculus)	MATH 110	Non-Technical Calculus
M1 900 (College-Level Calculus)	MATH 141	Calculus for Bio Sci
M1 900 (College-Level Calculus)	MATH 150	Calculus I
M1 900 (College-Level Calculus)	MATH 250	Calculus II
M1 900 (College-Level Calculus)	MATH 251	Calculus III
M1 902 (General Education Statistics)	MATH 282	Introduction to Statistics
M1 902 (General Education Statistics)	MATH 283	Intro to Applied Stats
M1 904 (General Ed Mathematics)	MATH 113	Contemporary Math
M1 905 (Discrete Mathematics)	CS 215	Discrete Mathematics
M1 905 (Discrete Mathematics)	MATH 215	Discrete Structures I
P1 900 (General Education Physics)	PHYS 203A	College Physics
P1 900L (General Education Physics)	PHYS 253A	College Physics Lab
P1 902 (General Education Chemistry)	CHEM 200	Intro to Chem Principles
P1 902L (General Education Chemistry)	CHEM 140A	Chemistry
P1 902L (General Education Chemistry)	CHEM 201	General Chemistry Lab I
P1 903L (Chemistry and Society)	CHEM 106	Chemistry and Society
P1 907 (Introduction to Geology)	GEOL 220	Physical Geology
P1 907 (Introduction to Geology) ¹	GEOL 221	Earth Through Time
P1 908L (Environmental Geology)	GEOL 110	Geology/Environment
P1 909L (Physical Geography)	GEOG 303I	Earth's Bio Environment
S1 900N (Introduction to Anthropology)	ANTH 104	Human Experience
S1 904D (Cross-Cultural Relationships)	ANTH 202	American Cultures
S2 901 (United States History II)	HIST 210	20th Century America
S2 902 (Hist of Western Civilization II) ¹	HIST 205A	Hist of Western Civ
S2 903 (Hist of Western Civilization II) ¹	HIST 205B	Hist of Western Civ
S2 910N (History of Latin America I) ¹	ANTH 205	Latin American Civ
S2 912N (History of World Civilization I)	HIST 101A	Hist of World Civ I
S2 913N (Hist of World Civilization II)	HIST 101B	Hist of World Civ II
S2 913N (Hist of World Civilization II)	HIST 112	20th Century World
S3 901 (Principles of Macroeconomics)	ECON 241	Intro to Macroecon
S3 902 (Principles of Microeconomics)	ECON 240	Intro to Microecon
S4 900N (Intro to Human Geography) ¹	GEOG 103	World Geography
S5 900 (Am/U.S. Natl Government I)	POLS 114	Am Govt and Politics
S5 902 (U.S. State and Local Govt) ¹	POLS 213	State and Local Govt
S5 903 (Principles of Political Science) ¹	POLS 200	Disciplinary-Scope
S5 905 (Comparative Government) ¹	POLS 207	Political Ideologies

IAI Course Number and Title	SIUC Course	SIUC Course Title
S6 900 (General Psychology I)	PSYC 102	Intro to Psychology
S7 900 (Introduction to Sociology)	SOC 108	Intro to Sociology
S7 902 (Marriage and Family) ¹	CI 227	Marriage and Family
S7 902 (Marriage and Family) ¹	WMST 286	Marriage and Family
S7 903D (Racial and Ethnic Relations)	SOC 215	Race/Ethnic Relatns: US

¹These SIUC and corresponding IAI courses will not satisfy SIUC's University Core Curriculum requirement, but will satisfy the Illinois Transferable General Education Core.

These courses will be updated periodically. For a complete list or for more information about IAI, visit their web site at: <<http://www.itransfer.org>>.

Illinois Articulation Initiative Major Courses

SIUC is also a participant in IAI individual baccalaureate major agreements. The majors that SIUC has participated in at this time are: agriculture, art, art education, biological sciences, computer science, early childhood education, elementary education, engineering, music, music education, and secondary education. Majors that will be implemented by the summer of 1999 include: business, mass communication, psychology, and criminal justice. Majors that will be participating in the year 2000 and beyond include: nursing, special education, theater arts, English, speech communication, mathematics, manufacturing technology/machining, chemistry, history, political science, and occupational therapy. Check the Illinois Articulation Initiative website for the latest in major course articulations at <<http://www.itransfer.org>>.

IAI MAJOR COURSES OFFERED AT SIUC

IAI Major Course	SIUC Course	SIUC Course Title
AG 901	ABE 204	Introduction to Agricultural Economics
AG 902	ANS 121	Science of Animals That Serve Man
AG 902	ANS 122	Practices of Animal Industry
AG 903	PLSS 200	Introduction to Crop Science
AG 904	PLSS 240	Soil Science
AG 905	PLSS 220	General Horticulture
ART 901	AD 207A	Introduction to Art History I
ART 902	AD 207B	Introduction to Art History II
ART 904	AD 110	Introduction to Drawing I
ART 905	AD 120	Introduction to Drawing II
ART 906	AD 200	Introduction to Drawing III
ART 907	AD 100A	Two-Dimensional Design
ART 908	AD 100B	Three-Dimensional Design
ART 911	AD 201	Introduction to Painting
ART 912	AD 204	Beginning Ceramics
ART 913	AD 203	Beginning Sculpture
ART 914	AD 202	Introduction to Printmaking
ART 915	AD 205	Beginning Metalsmithing
ART 916	AD 206	Beginning Fibers
ART 917	CP 320	Basic Photography
BIO 903	PHYS 203A	College Physics
BIO 904	PHYS 203B	College Physics
BIO 906	CHEM 200	Introduction to Chemical Principles
BIO 907	CHEM 210	General and Inorganic Chemistry
BIO 908	CHEM 340	Organic Chemistry I
BIO 909	CHEM 342	Organic Chemistry II
BIO 911	BIOL 200B	Organismic & Ecological Biology

IAI Major Course	SIUC Course	SIUC Course Title
BIO 912	BIOL 200A	Cell and Molecular Biology
CS 911	CS 202	Introduction to Computer Science
CS 912	CS 220	Programming with Data Structures
CS 922	CS 320	Computer Organization and Architecture
ECE 911	CI 245	Professional Development Seminar
ECE 913	EDUC 308	Teaching Exceptional Children
EED 901	EDUC 311	School and Society
EED 904	EDUC 312	Field Observation
EGR 901	MATH 150	Calculus I
EGR 902	MATH 250	Calculus II
EGR 903	MATH 251	Calculus III
EGR 904	MATH 305	Introduction to Differential Equations I
EGR 911	PHYS 205A	University Physics
EGR 911	PHYS 255A	University Physics Lab
EGR 912	PHYS 205B	University Physics
EGR 912	PHYS 255B	University Physics Lab
EGR 914	PHYS 205C	University Physics
EGR 914	PHYS 255C	University Physics Lab
EGR 931	EE 235	Electric Circuits I
EGR 931	ENGR 335	Electric Circuits
EGR 932	EE 225	Introduction to Digital Systems
EGR 941	ENGR 102	Computer-Aided Engineering Drawing
EGR 942	ENGR 260A	Mechanics of Rigid Bodies
EGR 943	ENGR 260B	Mechanics of Rigid Bodies
EGR 945	ENGR 311	Mechanics of Deformable Bodies
EGR 946	ENGR 300	Engineering Thermodynamics
EGR 961	CHEM 200	Introduction to Chemical Principles
EGR 961	CHEM 201	General Chemistry Lab I
MUS 901	MUS 105A	Basic Harmony
MUS 902	MUS 105B	Basic Harmony
MUS 903	MUS 205	Advanced Harmony
MUS 906	MUS 030A	Piano Class
MUS 906	MUS 030B	Piano Class
MUS 906	MUS 030C	Piano Class
MUS 906	MUS 030D	Piano Class
MUS 907	MUS 104A	Aural Skills I
MUS 907	MUS 104B	Aural Skills II
MUS 907	MUS 204	Advanced Aural Skills
MUS 908	MUS 013	Symphonic Band
MUS 908	MUS 014	Wind Ensemble
MUS 908	MUS 017	Symphony
MUS 908	MUS 020	Choral Union
MUS 908	MUS 022	Concert Choir
MUS 909	MUS 140	Applied Music
MUS 909	MUS 240	Applied Music
MUS 909	MUS 340	Applied Music
MUS 909	MUS 440	Applied Music
SED 901	EDUC 311	School and Society
SED 904	EDUC 308	Exceptional Child
SED 905	EDUC 312	Field Observation

¹These SIUC and corresponding IAI courses will partially satisfy IAI major requirements. For SIUC's major requirements refer to Chapter Five in this catalog. For IAI's major requirements refer to <<http://www.itransfer.org>>.

4 / Colleges and Academic Programs



College of Agriculture

James M. McGuire, *Dean*

Departments: Agribusiness Economics; Animal Science, Food and Nutrition; Forestry; Plant, Soil and General Agriculture

The College of Agriculture offers the following majors leading to the Bachelor of Science degree.

Agribusiness Economics	Animal Science	Forestry
Agriculture, General	Food and Nutrition	Plant and Soil Science

Students majoring in Agribusiness Economics may choose an Agricultural Resource Management or Applied Economics and Agribusiness option. Students pursuing the General Agriculture major specialize in Agricultural Education and Information with options in Education or Information, Agricultural Mechanization or Agricultural Production. Production, Science and Pre-Veterinary, and Equine Science specializations are available in the Animal Science major. Food and Nutrition majors may choose Dietetics or Hotel, Restaurant and Travel Administration specializations. In Forestry, one may choose a specialization in Forest Resources Management or in Outdoor Recreation Resources Management. Students in the Plant and Soil Science major may take a concentration in crops, soils, or horticulture, with a Business, General, or Science specialization within that concentration. In addition, Landscape Horticulture and Environmental Studies specializations are available.

It is recommended that high school students who are planning to pursue one of the above majors include the following in their high school program: four years of English, three years of mathematics (algebra, geometry, advanced mathematics); three years of science (biology, chemistry, physics); three years of social studies; and two years of art, music, vocational education (may include agriculture), or foreign languages. For prospective agriculture majors or food and nutrition majors, high school classes in agriculture or home economics respectively are beneficial but are not specifically required.

For transfer students wishing to pursue a major in one of the agricultural, food and nutrition or forestry areas, courses taken prior to entering the University should include physical and biological sciences, social sciences, and humanities. In addition, a course in speech and appropriate sequences in English composition and college algebra should be included. A potential transfer student who has already identified a major for the bachelor's degree may select with greater precision the courses which will be transferred by consulting the curriculum for that major.

A student planning to take preprofessional courses in veterinary science should register in the College of Agriculture's four-year curriculum in Animal Science (Science and Pre-Veterinary specialization).

Qualified candidates for the Capstone Option are accepted into Agribusiness Economics, Animal Science, General Agriculture and Plant and Soil Science. The Capstone Option is described in Chapter 3.

Of the recent graduates of the College of Agriculture, about 45% have been employed in private industry, 10% management and about 15% have been employed in each of: government (federal, state, county, and city); education or extension; graduate study or professional schooling.

Typical employment opportunities for Agribusiness Economics graduates include positions in credit and financial management, professional farm management, sales, and grain merchandising. A graduate from the General Agriculture major can be employed in the farm machinery or implement industry, as a high school agricultural educator, as a news editor, or in agricultural sales or service. Animal Science majors seeking employment can investigate positions in livestock management or sales, and

governmental positions such as meat inspectors, as well as veterinary school. Food and Nutrition majors will find numerous opportunities as registered dietitians or in the hotel and restaurant management industry. The major employer of Forestry graduates is the federal or state government, but they also work as private forestry consultants, in urban forestry, or at sawmills. The Plant and Soil Science graduate with a concentration in agronomy will find opportunities in industry such as agricultural chemical sales, in production agriculture, or with a governmental agency such as the Soil Conservation Service. Horticulture graduates can seek employment in nursery management, in the florist or interior plant maintenance industry, or with landscape design firms.

College of Agriculture students come from both rural and urban homes. Almost 40% of the undergraduates and nearly 45% of the graduates are women. Students who elect any one of the six majors in the College of Agriculture are counseled, for the most part, by individual faculty advisers prior to registration. Most faculty offer an open-door policy and much personal attention to their advisees as well as to students enrolled in their classes.

The Agriculture Building houses the offices, classrooms, and laboratories for the agriculture and forestry programs. The Food and Nutrition program has offices, classrooms, and laboratories in Quigley Hall. Other research and teaching facilities include over one-third acre in greenhouses plus 2,000 acres of farm and timberland.

College of Applied Sciences and Arts

Elaine M. Vitello, *Dean*

Technically oriented academic programs in the College of Applied Sciences and Arts can lead to the Associate in Applied Science and Bachelor of Science degrees. Educational offerings include:

1. Bachelor of Science programs for students with career goals in selected technical/professional areas.
2. Associate in Applied Science degree programs for entry of beginning students, transfer students from other institutions, or transfer students from other units within SIUC; and
3. Post-associate offerings in occupational areas related to the associate degree programs.

Requirements for Bachelor of Science and Associate in Applied Science degrees as well as additional information for each major offered can be found in program listings below. Several of these majors offer third-year-post-associate specializations to provide students who possess associate degrees with additional competencies.

Departments and programs within the College of Applied Sciences and Arts are:

Department Name	Program	Degree
Applied Arts	Architectural Studies	Baccalaureate
	Construction Technology	Associate
	Interior Design	Baccalaureate
Applied Technology	Automotive Technology	Associate and Baccalaureate
Aviation Management and Flight	Aviation Flight	Associate
	Aviation Management	Baccalaureate
Aviation Technologies	Aviation Technologies	Baccalaureate

Department Name	Program	Degree
Health Care Professions	Dental Hygiene	Baccalaureate
	Dental Technology	Associate
	Health Care Management	Baccalaureate
	Mortuary Science and Funeral Service	Baccalaureate
	Physical Therapist Assistant	Associate
	Physician Assistant	Baccalaureate
	Radiologic Sciences	Baccalaureate
	Respiratory Therapy Technology	Associate
Information Management Systems	Electronics Management	Baccalaureate
	Information Systems Technologies	Baccalaureate
	Office Systems and Specialities	Associate
Technical and Resource Management ¹	Advanced Technical Studies	Baccalaureate

¹Anyone interested in the Construction Management Emphasis should refer to Chapter 5.

Anyone interested in the following off-campus programs should contact the Office of Off-Campus Academic Programs, ASA, A 120 (618) 536-6609.

Aviation Management
Electronics Management

Fire Science Management
Health Care Management

Students with educational and/or occupational backgrounds or with career objectives in the fields of architecture, automotive technology, aviation, electronics, fire science, health care, information systems or interior design are encouraged to apply for admission to these career-specific programs. Students also may choose to apply for admission to Advanced Technical Studies which is designed especially for technically-oriented students seeking career enhancement where no specific Bachelor of Science degree is available. Admission to the Bachelor of Science degree program in Advanced Technical Studies does not imply admission to any College of Applied Sciences and Arts' associate degree program. Requirements for Bachelor of Science degree programs as well as additional information for each of these majors can be found in Chapter 5.

Students eligible for admission to the Bachelor of Science programs must meet University entrance requirements and program requirements for admission to the major. Transfer students admitted to SIUC in good standing are eligible to apply for admission to the college's programs. A minimum of 30 semester hours in the core and major courses *must* be taken at SIUC, with at least 24 of these hours to be taken *after* admission to a program. Students must complete all course work in the program core and major requirements as well as the elective areas with a gpa of 2.00 or better to qualify for completion. Students may be admitted to the college's off-campus academic programs if requirements stated in the *SIUC Military Programs Supplement* to the *SIUC Undergraduate Catalog* have been met. Additionally, students must fulfill all SIUC requirements including the University Core Curriculum requirements, total hour requirements, residence requirements, and gpa requirements to qualify for completion.

The Capstone Option is an alternative to completion of the University Core Curriculum requirements and is available to qualified students. Students eligible for the Capstone Option are able to complete their bachelor's degree in 60 additional semester hours as approved by the department. To make an application to the Capstone Option, the student must have a 60-hour Associate in Applied Science degree or its equivalent from an occupational or technical training program; a 2.25 or higher gpa on all accredited work prior to the associate degree; and send an application for

the Capstone Option by no later than the student's first semester in a participating Capstone major. The student may not have more than 12 hours of course work from the chosen baccalaureate major prior to application. More information about the Capstone Option can be found in Chapter 3.

Provision is made for recognizing various forms of previous educational, military, and occupational experience. This credit is awarded via program/departmental evaluation. Also, cooperative education experience, as well as internship and independent study opportunities, are available.

The College of Applied Sciences and Arts has several articulation agreements with community colleges located in Illinois, Indiana, Iowa, New Jersey and Texas. Agreements exist for the following programs: Automotive Technology, Aviation Management, Aviation Technologies, Electronics Management, Information Systems Technologies and Office Systems and Specialties (Court Reporting Specialization). Additionally, linkage agreements exist for Dental Hygiene, Health Care Management, Mortuary Science and Funeral Service, Physical Therapist Assistant, Radiologic Sciences and Respiratory Therapy Technology. For specifics, refer to the program information in Chapter 5.

Additional information on the College of Applied Sciences and Arts and its programs and course offerings is available through the Office of Enrollment Services, College of Applied Sciences and Arts, Southern Illinois University Carbondale, Carbondale, Illinois 62901-6604, phone: (618) 453-7283 or email: <kentb@siu.edu>.

College of Business and Administration

Siva Balasubramanian, *Acting Dean*

Departments: Finance; Management; Marketing
School: Accountancy

The College of Business and Administration aims to prepare students to perform successfully in business and other organizations such as government and other not-for-profit organizations functioning within a changing social, economic, and political environment. Study provides the student with fundamental principles and practices of organizational behavior and allows the mastering of knowledge and skills for effective management. The curriculum provides a broad base for understanding business while simultaneously allowing in-depth study within an area of concentration. Students find that the professional education they receive in the college is desired by business, governmental units, and other public institutions. The advanced curriculum and related programs provide students not only with a meaningful education but also with a means of relating that education to organizations and commerce.

The College of Business and Administration offers the following majors leading to the Bachelor of Science degree:

Accounting	Business Economics	Management
Business and	Finance	Marketing
Administration		

All programs offered in the College of Business and Administration are accredited by The International Association for Management Education.

The College of Business and Administration offices are located in Henry J. Rehn Hall; the classes are conducted in various buildings throughout the campus.

Pre-College Preparation

High school and preparatory school students are urged to follow a program which includes at least four units of English and three units of mathematics, with a substantial portion of the remainder of their study programs devoted to such academic subject areas as humanities, the sciences, and social studies.

Transferred Credits in Business Courses

Subject to the policies of the University and of The International Association for Management Education regarding acceptance of transferred credits, the college accepts college-level credit earned in business and economics courses from accredited two- or four-year institutions of higher education and counts such credit toward the 120 semester hours required for graduation. However, if such courses are offered at the lower division (freshman and sophomore level) at the institution where completed, only those courses shown below will be treated as equivalencies to college- or departmental-required courses.

Subject	Hours
Principles of accounting	6
Economic principles	6
Business economics statistics	3
(where college algebra is a prerequisite)	
Basic computer course ¹	3
Legal and social environment of business	3

¹Computer coursework completed at other universities and colleges will be accepted as transfer credit for the College of Business and Administration core computer requirement if that course has been approved as an equivalent course by the College of Business and Administration.

Students also have the opportunity of validating additional coursework and nothing in the above statement abridges a student's right to satisfy graduation requirements by proficiency (or competency) examinations. Such examinations are treated as a student right by the college and are available for most courses.

Admission Policy

The College of Business and Administration admission policy shall be the same as that of the University. All qualified new students are admitted to the College of Business and Administration with a specific departmental major classification or as an unclassified student.

Reentering and Southern Illinois University Carbondale Students. Students who are currently enrolled or were previously enrolled at the University in a major outside the College of Business and Administration may request admission to a Business program. These students will be considered for admission to the College of Business and Administration provided that they are in good standing with the University.

International Students. International students must meet admission requirements comparable to those of native students. While admission credentials such as ACT and class rank are generally not submitted by international students, applicants do submit credentials which reflect their achievement in some subject areas similar to those of the United States students. Therefore, beginning international freshmen as well as transfer students will have their applications and documents reviewed in a manner similar to domestic students for admission to the College of Business and Administration.

Grade Point Average Calculation. In calculating a student's grade point average for admission purposes for continuing, new, and reentering students, the admission office will follow the SIUC grading policy and procedures for all collegiate (not remedial) work attempted at SIUC and other collegiate institutions.

Grade Point Average Requirement

Graduation from the College of Business and Administration requires achievement of a 2.00 grade point average in all business-prefix (ACCT, BUS, ECON, FIN, MGMT, MKTG) courses taken at Southern Illinois University Carbondale. Accounting majors are subject to the additional requirement of achieving a grade of C or better in accounting-prefix (ACCT) courses completed at the University; Marketing majors must earn a C grade in all marketing courses that are taken to satisfy major requirements; and Finance majors must maintain a cumulative 2.00 grade point average in Finance

and Finance majors must maintain a cumulative 2.00 grade point average in Finance prefix courses taken at SIUC. Business courses may be taken only three times. This is, if a course is failed, a student has two additional attempts to pass the course. Students may not repeat courses in which they have earned a grade of C or better.

Pass/Fail Policy of the College

Business majors may not register on a Pass/Fail basis for courses used to satisfy requirements in the College of Business and Administration unless the course is designated Mandatory Pass/Fail.

Course Sequencing

It is of the utmost importance that required courses be sequenced properly. Sequencing guides are available from the college’s academic advisement center and are published in the College of Business and Administration’s *Student Handbook*. Courses on the 300 to 400 levels are reserved for juniors and seniors.

Fifty Percent Rule

At least 50% of the coursework of all business majors must be devoted to courses offered outside the College of Business and Administration.

Multiple Majors in Business

Business majors may choose to complete two or more of the six majors offered by the college. While all requirements of each major must be satisfied, this can usually be accomplished through judicious use of electives without extending anticipated graduation dates beyond one semester. All majors will be noted on the diploma issued on completion of the Bachelor of Science degree.

University Core Curriculum Courses Prescribed for Business Majors

Students in the College of Business and Administration must complete the University Core Curriculum requirements. The following courses are required and will count toward partial fulfillment of these:

- Psychology 102
- Economics 241 to substitute for Economics 113 in the University Core
- English 101, 102
- Mathematics 139 to substitute for University Core Mathematics
- Speech Communication 101

Professional Business Core

The professional business core, required of all College of Business and Administration students, is comprised of the following courses:

Courses	Semester Hours
Accounting 220, 230	6
Business 302	1
Management 202, 208 ⁵ , 304, 318, 481	15
Computer Science 200b/Information Management Systems 229 ²	3
Economics 241 ¹¹ , 240	(3) ¹ + 3
Finance 270 ³ , 330	6
Marketing 304	3
Mathematics 139 ¹ and 140 ⁴	(3) ¹ + 4
Total	41

¹See University Core Curriculum courses prescribed for business majors.
²Computer coursework completed at other universities and colleges will be accepted as transfer credit for the College of Business and Administration core computer requirement if that course has been approved as an equivalent course by the College of Business and Administration.
³The combination of Finance 280 and 380 may be substituted for 270.
⁴Mathematics 150 may be substituted for 140.
⁵Also listed as Accounting 208.

College of Education

R. Keith Hillkirk, *Dean*

Departments: Curriculum and Instruction; Educational Administration and Higher Education; Educational Psychology and Special Education; Health Education and Recreation; Physical Education; Rehabilitation; Social Work; Workforce Education and Development

The College of Education offers the following programs¹ leading to the Bachelor of Science degree:

Art	Mathematics
Biological Sciences	Music
Clothing and Textiles	Physical Education
Communication Disorders and Sciences	Recreation
Early Childhood	Rehabilitation Services
Elementary Education	Secondary Education ²
English	Social Studies
French	Social Work
German	Spanish
Health Education	Special Education
History	Workforce Education and Development

¹In addition to programs offered almost entirely within the College of Education, certain programs are offered in cooperation with the College of Liberal Arts (e.g., English, art, music), or with the College of Agriculture and the College of Science (e.g., biological sciences).

²This is not an academic major. Persons planning to teach in secondary schools should refer to Curriculum and Instruction program for a listing of academic majors and minors.

The College of Education is a multipurpose college preparing students as human service professionals as well as for the teaching profession. These programs include preparation in Apparel Design, Clothing Retailing, Child and Family Services, Athletic Training, Exercise Science and Physical Fitness, Recreation, Rehabilitation Services, Community Health, and Education, Training and Development.

Preparation of teachers at all levels and in all areas of instruction in the public schools from preschool education through high school is the special function of the College of Education. In its graduate offerings the efforts of the College of Education include professional work for prospective college teachers and administrators and several specializations in elementary and secondary school administration and supervision.

For most undergraduate students preparing to teach in high schools, the subject-matter courses will be taken in the other colleges and schools of the University, and the professional preparation for teaching, including student teaching, will be taken in the College of Education. Graduates of the College of Education receive the Bachelor of Science degree.

Students who wish to become principals or supervisors in the public schools take graduate work in the Department of Educational Administration and Higher Education. The department's major emphasis is on the graduate work, but it also participates in providing background for elementary and high school teachers. Likewise, students wishing to pursue a career in teaching or administration in colleges and universities take graduate work in the department. The department does not offer an undergraduate major in higher education, but it provides courses for undergraduate credit providing a broad background in higher education for elementary and high school teachers.

The College of Education, housed in the Wham Education Building, is the oldest unit of the University, which was originally chartered as Southern Illinois Normal University.

Teacher Education Program

Southern Illinois University Carbondale is fully accredited by the National Council for Accreditation of Teacher Education (NCATE) and by the State Teacher Certification Board, Springfield. The teacher education program is an all-university function administered by the dean of the College of Education. An advisory committee composed of faculty, area teachers, and administrators serves in a recommending capacity to the dean.

Teacher education programs, approved by the State Teacher Certification Board, are offered in elementary education, early childhood education, special education, secondary education majors and minors, and in majors which lead to the special certificate to teach K-12. The special education major offers specializations in education of the behaviorally disordered, of the mentally retarded, and of the learning disabled.

Only those students who complete an approved teacher education program are recommended for certification and may receive a teaching certificate through the entitlement process. Further information and procedures for receiving the certificate are explained below under Certification.

ADMISSION POLICY

The College of Education admission policy shall be the same as that of the University. All qualified new students are admitted to the College of Education with a specific departmental major classification or as an undecided student. Students applying to the University for the Elementary Education program are first placed in Pre-Elementary Education. The same policy applies for reentering students and for students enrolled in Teacher Education Program majors in other colleges in the University.

RETENTION POLICY FOR TEACHER EDUCATION PROGRAM

This retention policy became effective August 15, 1993, and applies to all students enrolled at Southern Illinois University Carbondale after August 15, 1993.

A total of 320 students will be admitted each year to the Teacher Education Program. One hundred and sixty students will be admitted on October 1 for enrollment in the teacher education sequence beginning the spring semester. One hundred and sixty students will be admitted on March 1 for enrollment in the teacher education sequence beginning fall semester. Paperwork for admission should be submitted by September 20 for the October 1 admission date, and by February 20 for the March 1 admission date.

Advancement to the teacher education certification program may occur when the student has completed a minimum of 30 semester hours. Pre-Elementary Education majors must meet conditions for admissions to the teacher education program as well as admission to the Elementary Education major. A student is eligible to make formal application for admission to the program when the following criteria have been met:

1. A minimum of 30 semester hours of completed work;
2. An overall grade point average of at least 2.50 (4.0 scale);
3. Completion of English 101 and 102 with a grade of C or better;
4. Three letters of recommendation from college or university faculty;
5. An ACT score of 18.

Applications must be accompanied by verification that all prerequisites have been met. Students are responsible for submitting test scores to the College of Education Student Services at the time of application. Application forms, as well as information about the teacher education program, are available from the College of Education Student Services in Wham Education Building, room 135. Students are encouraged to investigate the feasibility of applying for a particular teaching field early in their undergraduate careers by contacting their adviser or the department in which they wish to specialize. Transfer students are encouraged to contact the College of Education Student Services at least one semester prior to enrolling at Southern Illinois University Carbondale.

If a student's application is approved after being reviewed by the chief academic adviser in the College of Education, the student is issued a membership card which entitles the student to begin work in the basic professional education courses which are prerequisite to the professional semester of student teaching. Provisions for enrollment in Education 310:

1. Students who have not enrolled in and taken Education 310 within one year of being admitted to the Teacher Education Program will be dropped from the program. They must reapply to enroll in Teacher Education Sequence courses.
2. Students who wish to change majors after being admitted to the Teacher Education Program and prior to taking Education 310, must reapply in the new major and be admitted in the new major as of the date the major change was noted. Students who change their major after enrolling in Education 310 may have to take additional hours of Education 312 to meet the 100 clock hours in their major field.
3. Students may not enroll in Education 310 more than two times. After two failures, students must demonstrate through external experiences with children/youth of the age they plan to teach that they have the potential for a third placement. This will require at least one semester of external experience and written documentation from the head of the agency as well as from the person with whom they have had direct experience from the agency in which the experience was obtained.

At the end of the first semester of membership, the department offering the student's major is requested to submit a recommendation as to whether or not the student should be retained in the program. Criteria for this recommendation are available from the department or the student's adviser. Failure to obtain approval prohibits the student from continuing with the professional education courses and could lead to suspension from the program. In order to remain in the program and complete the requirements for graduation and teacher certification, the student must attain a 2.50 grade point average in the major and receive departmental approval. Both of these requirements must be met before final clearance can be given for a student teaching assignment.

Students who withdraw from student teaching for whatever reason will be told specifically what criteria they must meet to enroll in student teaching a second time. Students who cannot finish a second student teaching assignment will not be readmitted to student teaching.

Students who are not able to meet the criteria of the teacher education program or their major department will be counseled about alternative programs.

Collegiate Warning and Dismissal in Teacher Education Program. Students who do not achieve an accumulative 2.25 grade point average in their major in any semester are subject to collegiate warning. Students who are on collegiate warning and do not earn a 2.25 grade point average in courses required by their major in a subsequent semester will be placed in a status of collegiate dismissal. Students registered in other colleges who are in the Teacher Education Program who do not meet this requirement will be dismissed from the Teacher Education Program. A student who has been placed on collegiate dismissal may seek transfer to another program if the student has an overall grade point average at Southern Illinois University, of 2.00 and is in good academic standing. Students who are placed on collegiate dismissal and have less than an overall 2.00 for work completed at the University but have not been suspended from the University will be placed in Undergraduate Academic Services.

DEGREE REQUIREMENTS

In addition to the University Core Curriculum and major requirements, each degree candidate in a teacher education program must complete the course requirements listed below:

1. Two semester hours in health or physical education by taking Health Education 101 or Physical Education 101.

- 2. A total of 9 hours in American history, government (Political Science 114, History 110 recommended) and an approved non-western or third world culture course.
- 3. All University Core Curriculum courses required by the Illinois State Board of Education. Specific courses are listed for each major in the Undergraduate Catalog.
- 4. Psychology 102 as a prerequisite for Education 314 in the professional education sequence.
- 5. English 101 and 102, and one additional English Literature course with a grade of C or better. The two composition courses are a prerequisite to admission to the Teacher Education Program.
- 6. Speech Communication 101 is required for state certification.
- 7. The professional education sequence listed below. Each of the courses which are part of the program prior to the professional semester must be completed with a grade of C or better as a prerequisite to admission to the professional semester. Students must receive a grade of C or better in Education 401 to receive the institutional recommendation for certification.

Professional Education Sequence	28
Decision Component	
Education 308	3
Education 310	2
Basic Professional Block ¹	
Education 311	2
Education 314	2
Education 315	3
Education 316	2
Education 317	2
Professional Semester	
Education 401	12

8. Illinois State Teacher Certification Board general education course distributions in: science, mathematics, social science, humanities, health, and physical education. At least one three semester hour course must be taken in non-western or third world cultures in either the humanities or social sciences. Students having questions concerning whether their program meets certification board requirements should discuss their concerns with their academic advisers.

¹Includes Education 312 and 400 for Special Education majors.

Certification

A student who is nearing completion of the teacher education program (usually during the last semester) can obtain the forms to make application for entitlement to certification for the State of Illinois from the College of Education Student Services, Wham Education Building, Room 135. Upon completion of the application forms by the student, the certification staff will process the forms. When the student's program, including graduation clearance, is completed, the office will mail the completed forms to the student's permanent address for use in applying for certification through the student's future educational service region superintendent.

Applicants for certification must register and pass the Illinois Certification Test for Basic Skills and Illinois Certification Area prior to being granted a certificate. Students are advised to take the Basic Skills Test in their junior year. The Illinois Certification Area Test should be taken prior to graduation.

The State of Illinois issues through the entitlement process the Standard Elementary Certificate, Standard High School Certificate, Standard Special Certificate, or Early Childhood-Preschool Certificate to students who graduate from an approved teacher education program at the University.

Early Childhood Certificate. Students planning to teach at the preschool-primary level in public schools or other settings in Illinois register in the College of Education. The early childhood preschool primary program is specifically designed to prepare future teachers of pre-kindergarten, kindergarten, and primary age children. For further information concerning the program, see the section of the catalog titled curriculum and instruction.

Standard Elementary Certificate. Students planning to teach on the elementary level in the public schools of Illinois register in the College of Education. Requirements for entitlement to the State of Illinois standard elementary certificate may be met through the completion of the elementary education program. For further information concerning these programs, see the sections of this catalog titled curriculum and instruction and professional education experiences.

Standard High School Certificate. Requirements for entitlement to the State of Illinois standard high school certificate and for entitlement to the standard special certificate may be met as explained in the section of this catalog titled curriculum and instruction. A listing of majors, minors, and other programs approved for certification entitlement purposes at Southern Illinois University Carbondale is presented there. It is possible for a student to be registered in one of the colleges or schools other than the College of Education and to meet the state requirements for the standard high school certificate or the standard special certificate by using as electives certain prescribed professional education requirements in the College of Education.

Standard Special Certificate. Teaching all grades, kindergarten through grade 12, requires the standard special certificate. As noted above, requirements for entitlement to the standard special certificate may be met in the manner outlined in the section of this catalog titled curriculum and instruction in Chapter 5. Teaching fields for which the standard special certificate is issued include physical education, special education, music, art, and communication disorders and sciences.

College of Engineering

Departments: Civil Engineering; Electrical Engineering; Mechanical Engineering and Energy Processes; Mining and Mineral Resources; Technology

The College of Engineering offers the following majors leading to the Bachelor of Science degree:

Civil Engineering	Industrial Technology
Electrical Engineering	Manufacturing Technology
Computer Engineering	Specialization
Specialization	Mining Technology Specialization
Engineering Technology	(Admission to the mining
Electrical Engineering Technology	technology program is
Specialization	temporarily closed.)
Mechanical Engineering	Mechanical Engineering
Technology Specialization	Mining Engineering

Engineering is the profession in which a knowledge of the mathematical and natural sciences gained by study, experience, and practice is applied with judgment to develop ways to utilize economically the materials and forces of nature for the benefit of people.

All of the engineering programs are accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology. The engineering technology program with specializations in electrical and mechanical engineering technology is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology. The industrial technology program is accredited by the National Association of Industrial Technology.

Specific requirements are listed for the various majors below. Six academic pro-

grams: civil engineering, electrical engineering, mechanical engineering, mining engineering, engineering technology and industrial technology serve students who have different career goals.

Civil Engineering. The civil engineering program leading to the Bachelor of Science degree is designed to provide the student with the broad educational background essential to modern civil engineering practice. Technical electives in the senior year permit greater breadth and additional depth in such areas as structural and geotechnical engineering, hydraulic engineering, environmental engineering and computational mechanics and surveying.

Electrical Engineering. The Department of Electrical Engineering offers courses in the major areas of electrical and computer engineering. Students who choose the electrical engineering major prepare themselves for professional and technical employment or graduate studies leading to advanced degrees. Employment opportunities exist within a wide range of organizations, such as governmental laboratories; consumer goods manufacturers; and telecommunications, electrical power, computer, and microelectronic companies. Flexibility in this major allows students to choose among courses in applications and theory of circuits, systems, communications, digital systems, controls, electronics, instrumentation, electromagnetics, and power systems.

Mechanical Engineering. Mechanical engineering is one of the most broadly based of the traditional engineering disciplines. Mechanical engineers design and develop a wide variety of systems for conversion, transmission, and utilization of energy; for material processing and handling and packaging; for transportation; for environmental control; and for many other purposes for the benefit of humanity. Therefore the curriculum contains a broad foundation in mathematics and the basic and engineering sciences, followed by more concentrated study in energy and machine systems. Mechanical engineers may be found in a variety of assignments including planning and design, research and development, supervision of installation and operation of complex systems, and management.

Mining Engineering. Mining engineers engage in planning, design, development, and management of surface and underground mining operations for exploitation of the earth's mineral deposits. The mining engineering program prepares graduates to meet the challenges of the mining industry. Coursework in the program includes such areas as surface and underground mining systems, mine ventilation, ground control and rock mechanics, mineral coal processing, material handling systems, mineral economics, mine health and safety engineering, operations research, and computer-aided mine design. Facilities include modern, well equipped rock mechanics, mine ventilation and mineral processing laboratories.

After completing the program, the graduate may work in an engineering or management position for mining industries, equipment manufacturing concerns, research organizations, or government agencies. The coursework also provides strong preparation for further study at the graduate level.

Engineering Technology. Engineering technology is that part of the technological field in which engineering knowledge and scientific methods are combined with hands-on technical skills to support engineering activities. It lies in the occupational spectrum between that of the technician and the engineer with specific responsibilities depending upon the nature of the training and requirements of the job but lying more closely to engineering. Graduates are prepared to deal with technical and production problems, and to apply their knowledge to such activities as development, design, construction, maintenance and operational problems.

Industrial Technology. Industrial technology is a management-oriented technical profession that is built upon a sound knowledge and understanding of materials, processes, technical management, and human relations; and a proficiency level in the

physical sciences, mathematics, and technical skills to permit the graduate to capably resolve technical-managerial and production problems. Graduates of this program are prepared for positions in processes, safety, quality control, supervision, robotics, methods analysis, and computer-aided manufacturing.

Readmission to the College

The readmission policy for the College of Engineering is the same as the University policy for a first suspension: students placed on academic suspension may seek reinstatement after a minimum of two semesters' interruption but must furnish tangible evidence that additional education can be successfully undertaken. Students placed on academic suspension a second or subsequent time may reapply after an interval of no less than two calendar years. For more information on procedures and requirements for readmission, students are advised to consult the Engineering advisement office.

Course Sequence

It is important that required courses in the program be taken in the proper sequence. Sequence guidelines are available from the college advisement office and the departmental offices. Courses on the 300-and 400-levels are reserved for juniors and seniors.

Transfer Students

Students enrolled in community colleges who plan to transfer to Southern Illinois University Carbondale should take courses that provide backgrounds in mathematics, physical sciences, social sciences, and humanities. Introductory foreign language courses are not acceptable. Students may transfer at any time, but there are advantages in having completed a baccalaureate-oriented associate-degree program. Community college students can complete specific Southern Illinois University Carbondale course requirements which include 6 hours of English composition and speech, 8 hours of university physics, 7 hours of chemistry, 11 to 17 hours of mathematics (including calculus and differential equations), 5 hours of statics and dynamics, and 16 hours of social sciences and humanities (one sequence in social science or humanities is required). Calculus and engineering mechanics are prerequisites for most junior-level engineering courses.

All transfer credit from an accredited institution whose work is acceptable at the University, both two-year and four-year, will be used in fulfillment of program requirements. Equivalencies for courses will be determined by the departmental chair, advisement office, or office of the dean, College of Engineering.

Students who are attending a public Illinois community college and contemplating application to the College of Engineering should obtain program information which has been prepared for their particular community college.

Qualified candidates for the Capstone Option are accepted with majors in industrial technology. The Capstone Option is described in Chapter 3.

Location

Administrative offices of the college are located in the Engineering Building near Lake-on-the-Campus.

College of Liberal Arts

Robert A. Jensen, *Acting Dean*

Departments: Administration of Justice; Anthropology; Art and Design; Economics;

English; Foreign Languages and Literatures; Geography; History; Linguistics; Music; Philosophy; Political Science; Psychology; Sociology; Speech Communication; Theater

The College of Liberal Arts offers the following majors leading to the Bachelor of Arts, Bachelor of Fine Arts, Bachelor of Music and Bachelor of Science degrees. Minors are possible in most of these areas. For exceptions, see below.

Administration of Justice	Foreign Languages and	Geography
African Studies ¹	Literatures	History
Aging Studies ¹	Chinese ¹	Linguistics
Anthropology	Classical	Mathematics
Art	Civilization ¹	Museum Studies ¹
Asian Studies ¹	Classics ¹	Music
Black American Studies ¹	East Asian	Paralegal Studies for
Comparative Literature ¹	Civilizations ¹	Legal Assistants
Design	French	Philosophy
Earth Science ¹	German	Political Science
Economics	Greek ¹	Psychology
English	Japanese ¹	Sociology
Foreign Language and	Latin ¹	Speech Communication
International Trade	Russian	Theater
	Spanish	University Studies

¹Minor only.

The College of Liberal Arts provides instruction in basic subject matter courses for the University Core Curriculum; majors in twenty-four subject areas; graduate programs for students pursuing master's and Ph.D. degrees; and preprofessional curricula for specialized schools such as law and courses offered through the Division of Continuing Education. The Bachelor of Arts, the Bachelor of Fine Arts, the Bachelor of Music, or the Bachelor of Science degree is granted to students who fulfill requirements for graduation from the College of Liberal Arts. The courses of study outlined by the departments determine the degree awarded. Students in the College of Liberal Arts may also prepare directly for teaching at the secondary level by including in their studies certain professional courses offered by the College of Education.

Through the diversified offerings of the College of Liberal Arts, students develop the ability to seek and weigh evidence and to think critically and independently; they gain a fundamental understanding of the ever changing social, political, and physical environment, and a deeper understanding of people, cultures, art, and literature.

ACADEMIC REQUIREMENTS

To receive a degree from the College of Liberal Arts students must fulfill the following:

1. University requirements including those relating to University Core Curriculum, residency, total hours completed, and grade point average.
2. College of Liberal Arts academic requirements:
 - a. One year of college credit in a single foreign language. Foreign students who have met the Office of Admissions and Records English language proficiency requirement may satisfy this requirement with their native language by providing a secondary school certificate from their native country. (Bachelor of Fine Arts degree students in Art, Bachelor of Music degree students and Bachelor of Arts degree students in the Music Business Specialization do not have to fulfill the foreign language requirement.)
 - b. One approved writing-intensive course designated by the major department as fulfilling the Writing-Across-the-Curriculum requirement.

- c. One English composition course, excluding creative writing, in addition to the Core Curriculum composition requirement. Students who have fulfilled the Writing-Across-the-Curriculum requirement may fulfill this requirement with a second College of Liberal Arts approved writing-intensive course.
3. Completion of an approved major in the College of Liberal Arts.
4. At least 40 hours of course work at the 300- or 400-level.

Liberal arts major requirements provide for a large number of elective courses, giving students maximum flexibility in planning their overall program of study at the University. To assist students in planning their programs, the college maintains an academic advisement office in Faner Hall 1229, as well as faculty advisers in each department. Students are urged to consult these academic advisers on how they can best use their electives to fulfill their intellectual interests and to prepare for particular career opportunities. A carefully planned minor or second major field can lead to additional career opportunities for the liberal arts major. Students who are planning to attend graduate school or one of the professional schools such as law or medicine should consult with their advisers on how best to plan their undergraduate curriculum.

University Studies Degree Program

In the University Studies Program students pursue either a Bachelor of Arts or Bachelor of Science degree through an individually designed, broad-based curriculum rather than a traditional specialization. The program accommodates multidisciplinary and non-traditional approaches to education and to related careers.

To determine eligibility for the University Studies Program as well as to explore specific possibilities, students should consult with the College of Liberal Arts Advisement office in Faner 1229 for further information.

Pre-Law

The College of Liberal Arts has a pre-law advisory committee to help students plan a useful, interesting curriculum to acquire the skills important for the study of law. This committee is made up of faculty members of various University units who hold law degrees or who have particular expertise in fields important to law and pre-law preparation. The committee sponsors a Pre-Law Night each fall, when opportunities are presented for open discussion of undergraduate curriculum and the law school admission process. These discussions are led by students and faculty of the Southern Illinois University Carbondale School of Law. A mock Law School Admission Test is given twice a year under regular test conditions.

The pre-law student may choose any major course of study. Among courses especially recommended for pre-law students is Political Science 130, Law in American Society, offered each fall semester. Students who are interested in pre-law may discuss academic programs and plans with pre-law advisers in the Liberal Arts Advisement Office.

College of Mass Communication and Media Arts

Joe S. Foote, *Dean*

Departments: Cinema and Photography; Radio-Television

Schools: Journalism

The College of Mass Communication and Media Arts offers the Bachelor of Arts degree in Cinema and Photography, and Radio-Television. The Bachelor of Science degree is awarded in Journalism.

Students in the college are required to complete two core courses dealing with basic concepts. The two courses: Mass Communication and Media Arts 201, *Media in Society*; and 202, *Visual Literacy*, provide a common experience and conceptual framework for college majors.

Admission to the University is handled through the Office of Admissions and Rec

ords, but those students who desire more specific information about a major should make an appointment with the academic adviser of that department or school. Each department or school of the college has an individual who will advise prospective students about major requirements, curriculum, activities, careers, and opportunities. Transfer students may also discuss transfer credit and placement in courses at Southern Illinois University Carbondale.

Students who wish to explore any or all of the academic majors in the college may apply for admission as an undecided major in Mass Communication and Media Arts. This gives the student access to any of the beginning courses in cinema, photography, journalism, radio or television as well as to the required core courses in Mass Communication and Media Arts.

Faculty of the college are engaged in research and creative activities concerning mass communication and the media arts. They also provide consulting service and other community services to schools, newspapers, radio and television stations, museums, businesses, and governments. They hold professional memberships and serve as officers in various local, state, national, and international organizations in mass communication and media arts. A number of special events are presented each year, including lectures by noted artists and media professionals, photography exhibits, and film showings.

The Broadcasting Service is also part of the college. The Broadcasting Service operates WSIU (FM), a public radio station, and WSIU (TV), Channel 8, a public television station, both located in Carbondale. It also operates WUSI (TV/FM) in Olney.

Administrative offices of the college are located in the Communications Building, which includes the broadcasting facilities, film production facilities, and the *Daily Egyptian*.

College of Science

Jack Parker, *Dean*

Departments: Chemistry and Biochemistry; Computer Science; Geology; Mathematics; Microbiology; Physics; Plant Biology; Zoology

The College of Science offers majors leading to the Bachelor of Arts and/or Bachelor of Science degrees in the following fields of study:

Biological Sciences	Mathematics	Plant Biology
Chemistry	Microbiology	Zoology
Computer Science	Physics	
Geology	Physiology	

Included in the curriculum of each department are survey courses that provide an introduction to the subject matter of that discipline while fulfilling the University Core Curriculum requirements of Southern Illinois University Carbondale. These courses assist all students to develop an understanding and appreciation of the impact of science on one's daily life. Elementary and advanced courses are provided to prepare students for professional employment or entrance into professional and graduate schools. Graduate training is also provided by each of the science departments leading to the M.S. or Ph.D. degree. The research interests of the faculty are extremely diverse.

Students in the College of Science may prepare for teaching at the secondary level by fulfilling the additional requirements of the College of Education.

The Bachelor of Arts or the Bachelor of Science degree is granted to students who fulfill the University requirements for graduation, the College of Science requirements as given below, and the requirements of the departments in which the students declare their majors.

Regularly enrolled students must declare a College of Science major by the end of their sophomore year. Transfer students must declare a College of Science major by the beginning of their second semester following transfer. Students planning post-

baccalaureate work in a professional field may designate their intention by declaring a preprofessional area as a secondary concentration, e.g., pre-medicine.

Each department has specific requirements for students to major in the selected field of interest, but the College of Science has some minimum general requirements listed below.

ACADEMIC REQUIREMENTS

None of these general academic requirements may be satisfied by taking the required courses on a Pass/Fail grading basis.

Biological Sciences. Six semester hours in courses offered by the biological sciences departments in the college, with the proviso that this requirement cannot be satisfied in whole or in part by the University Core Curriculum courses, but may be substituted for the latter in meeting the University Core Curriculum requirements.

Mathematics. The mathematics requirement can be met: (a) by passing Mathematics 108 and 109, or 111 or its equivalent, or Mathematics 141 or its equivalent, (b) by proficiency credit.

Physical Sciences. Six semester hours in courses offered by the physical science departments of the college, with the proviso that this requirement cannot be satisfied in whole or in part by University Core courses, but may be substituted for the latter in meeting the University Core Curriculum requirements.

Supportive Skills. Two courses, totaling at least six credit hours must be completed as supportive skills. Supportive skills courses are courses in communication or computation skills which have been approved by the major program and must be chosen from the following subject areas: (a) foreign language; (b) English composition or technical writing; (c) statistics; or (d) computer science. Students may not fulfill this requirement with courses offered by the student's major department or program. Because departments have different supportive skills requirements, students should consult individual program descriptions for approved courses for each major.

General Requirements. At least 40 hours of the student's 120 hours for graduation must be at the 300- or 400-level. The total may include transfer credit for courses judged by the department involved to be equivalent to its upper division courses. For transfer students submitting only the last year in residence, at least 24 of these must be at the 300- or 400- level.

PREPROFESSIONAL PROGRAMS

A student planning a professional career in any of the following fields should register in the College of Science immediately: dentistry, medicine, optometry, pharmacy, physical therapy, physician assistant, or podiatry. Students pursuing a career in veterinary science should register in the College of Science or the College of Agriculture. Students planning a double major need register only in the College in which they will earn a degree.

Graduate School

Richard E. Falvo, *Acting Dean*

Southern Illinois University Carbondale is a comprehensive university with an extensive offering of graduate programs and an equally strong commitment to research.

More than 3,400 graduate students pursue advanced study and research under the leadership and direction of some 800 graduate faculty members. The Graduate School offers master's degrees through sixty programs, and the doctoral degree through twenty-seven programs.

The highest degrees awarded are the Doctor of Philosophy, the Doctor of Business Administration, and the Doctor of Rehabilitation.

In addition to the Master of Arts and the Master of Science degrees, the master's

degrees awarded are Master of Accountancy, Master of Business Administration, Master of Fine Arts, Master of Music, Master of Public Administration, Master of Science in Education, and Master of Social Work.

The Graduate School is fully accredited by the North Central Association of Colleges and Secondary Schools, and specific programs have been accredited by appropriate state and national accrediting associations.

A separate catalog describing admission, courses and graduation requirements for the various programs in the Graduate School may be obtained by writing to the Graduate School, Southern Illinois University Carbondale, Carbondale, Illinois 62901-4716. The catalog may also be accessed at <<http://www.siu.edu/gradschl>>.

Library Affairs

Carolyn A. Snyder, *Dean*

Morris Library, named after the late Delyte W. Morris, University president from 1948 to 1970, features LINKS, a remotely accessible information network providing entry to library catalogs, abstract and index services, full-text databases, and local and national technological resources. The Library contains over two million volumes, some 12,000 current periodicals and serials, and three and a half million microforms. Collections of government documents, maps, films and video tapes, and sound recordings are prominent as well. With the exception of materials in Special Collections, most items are arranged on open shelves and are available for browsing.

The online bibliographic search services provide access to over 800 Illinois libraries through Illinet Online (IO) plus numerous academic libraries nationwide. CD-ROM (compact disk) stations located throughout the Library provide access to recent information in thousands of periodical titles as well as abstracts and indexes for many specialized areas of study. Many of these resources, full-text access to selected periodicals and the Internet, can be accessed from personal computers located on each floor of the library, and, also in dormitories, offices, and homes by direct connection with the University computer network or via modem. Illinet Online also provides an online circulation system to participating libraries and supports computerized inter-library loan activity, promoting and enhancing resource sharing on a statewide basis.

Morris Library houses four subject divisions in Humanities, Social Studies, Education and Psychology, and Science; Special Collections; a combined Reserved Reading and Self-Instruction Center; and an Undergraduate Library. The Library also provides instructional design and instructional technologies in its Instructional Support Services unit. In the basement is a state of the art classroom for Distance Learning and the Regional Center for Distance Learning and Multimedia Development.

The Undergraduate Division, located on the first floor, maintains a core collection of electronic data bases and print volumes that are considered basic to the undergraduate curriculum. The combined reserved-reading and self-instruction services are located within the Undergraduate Division, as well. Course-related materials in various media are made available to all class participants for limited-time usage. The central circulation desk, a part of Access Services, where all books are checked out, also is on the first floor. Books recalled from the Library's off-site storage facility are picked up at the circulation desk. The Browsing Room, containing recent books of a popular nature to provide recreational and avocational reading, also is found on the first floor.

Special Collections, on the second floor of Morris Library, maintains the rare books and manuscript collections, and the University archives. It contains important research collections in American Philosophy, First Amendment Freedoms, American and British expatriate literature, the Irish literary renaissance, proletariat theater, and the history of southern Illinois. Special Collections has numerous interesting exhibits of materials from its collections.

The Humanities Division, which includes sound recordings and a listening area, also is on the second floor. The Social Studies Division is on the third floor, and it

includes Government Documents. The Social Studies Division also maintains special computer equipment (Geographic Information Systems, or GIS) capable of combining statistical, governmental and geographical data. This currently is housed on the second floor.

The Education and Psychology Division is on the fourth floor. It also includes a center for curriculum materials. The Science Division on the fifth and sixth floors also houses an extensive map collection.

The Ulysses S. Grant Association, which is another unit of Library Affairs, collects, edits and publishes the entire correspondence of President Ulysses S. Grant. It has its editorial office on the third floor of Morris Library.

The Library faculty and staff recognize the complexity involved in using a research library and are eager to help students, faculty, staff and others in satisfying their research needs. Seminars and tutorials and printed handouts for electronic resources, the Internet, bibliographic instruction, library use and information retrieval are provided on a continuing basis by Library faculty and staff. Reference librarians in the Undergraduate Division and each of the subject divisions are available to help researchers with their search strategies and to acquaint them with the ever-expanding range of electronic finding aids and journals.

School of Law

Thomas Guernsey, *Dean*

The Southern Illinois University School of Law, established in 1973, is a small law school with roughly 360 students—approximately 130 students enter the school each fall. The student/faculty ratio of 13:1 ranks among the best in the United States. The school is housed in a spacious, modern building that contains classrooms, a law library, a legal clinic, faculty offices, an auditorium and student lounges. The school is fully accredited by the American Bar Association and is a member of the Association of American Law Schools.

The School of Law offers an extensive curriculum, emphasizing practical skills in courses such as legal writing and research, transactional drafting, legal argumentation and trial advocacy. The school has an active moot court program and a unique legal clinic in which upper-class students gain practical experience in civil cases under the supervision of the clinic faculty. The school is a leader in the fields of environmental law, health law and international law. The school's moot court teams have won the national championships in several different areas. In competition among Illinois schools (the all-Illinois competition), Southern Illinois University Carbondale has earned the reputation as the "team to beat".

In cooperation with the Graduate School, the School of Law offers concurrent juris doctor and master's degrees in business administration, public affairs, accountancy and social work. It is one of a handful of schools to offer a joint J.D./M.D. degree, which it does in conjunction with the SIU School of Medicine. The law library contains over 300,000 volumes — more than are in over 50 percent of academic law libraries in the country — as well as two computer-assisted research systems (LEXIS and Westlaw). It also features a computer lab. All law students have keys to building, which gives them 24-hour access to the law library.

Information on admission to SIUC School of Law can be obtained by writing to:

Assistant Dean for Admissions and Student Affairs
School of Law
Southern Illinois University Carbondale
Carbondale, Illinois 62901-6804

Note: Information on undergraduate preparation necessary for schools of law is given under Pre-Law below.

School of Medicine

Carl J. Getto, *Dean*

Southern Illinois University School of Medicine was established in 1970 after the Illinois General Assembly passed a bill calling for a second state medical school to be established in downstate Illinois. The school graduated an advanced standing class in 1975 and its charter class of all Illinois students in 1976. Currently, 72 students are admitted each year. Today, the school encompasses a complete sequence of medical education beginning with the M.D. degree and progressing through residency training and on to continuing medical education for practicing physicians.

The school's competency-based curriculum has brought the school national attention. Since students are not evaluated in competition with their peers, they are stimulated to cooperate with one another, a situation which more closely resembles what takes place in the actual practice of medicine. Problem-based learning concepts, including active learning situations with paper and simulated patients, are used to help students work toward competency throughout the curriculum. The four-year M.D. degree begins the first year in Carbondale where students concentrate on the basic sciences. The remaining three years are spent in Springfield where students study clinical medicine along with medical humanities and various electives.

The instructional program in Carbondale is based in Lindegren Hall and Memorial Hospital. In Springfield, it is based in the Medical Instructional Facility, the SIU Clinics, Memorial Medical Center and St. John's Hospital.

The school has one of the highest percentages of minority students enrolled of any Illinois medical school. Its Medical Education Preparatory Program (MEDPREP) in Carbondale is designed to assist minority and other students with educationally disadvantaged backgrounds to prepare for success in medical and dental schools.

The University residency programs include dermatology, family practice, internal medicine, medicine/pediatrics, medicine/psychiatry, neurology, obstetrics and gynecology, pediatrics, psychiatry, radiology and six surgical specialties. There are twelve fellowships for advanced clinical work.

The school's continuing medical education program provides an extensive accredited schedule of conferences and symposia for physicians and other health care professionals in central and southern Illinois. Springfield is the location for about three-fourths of the programs; the rest are held throughout the lower half of the state, including the school's Family Practice Centers.

The faculty in Carbondale's four basic science departments as well as Springfield's two medical sciences departments divide their time between teaching responsibilities and independent and collaborative research projects and regional support services. Both clinical investigators and the basic scientists collaborate on a wide-range of medical and scientific projects; they work in the various basic science laboratories on both campuses and in the clinical facilities located in the affiliated hospitals in Springfield. The faculty's commitment to research is further characterized by the offering of graduate programs leading to master's and doctoral degrees in physiology, in pharmacology and in medical microbiology and immunology.

Interfaced with all of its various educational and research programs is the provision of patient care through the various clinical departments and specialized clinics of the school and the practice of its physician faculty.

Preference is given to applicants from central and southern Illinois intending to practice medicine in the state. Inquiries regarding admissions and requests for a School of Medicine catalog should be addressed to the director of admissions, Southern Illinois University School of Medicine, P.O. Box 19230, Mail Code 1226, Springfield, Illinois 62794-1226.

Academic Programs

Pre-Major Advisement Center

The Pre-Major Advisement Center is the academic home of students who have not declared a major. The advisers have knowledge of the many majors offered by the University and will help students explore and select majors in relation to their interests and abilities. Advisers are available for academic advisement by appointment throughout each semester. There is also an adviser available at specified times each day for problem solving on a walk-in basis. The Pre-Major Advisement Center is located in Woody Hall, C-117. Call 618-453-4351 for more information.

Center for Basic Skills

The Center for Basic Skills offers comprehensive support services to a select group of entering freshmen and other selected undergraduate students through intrusive academic advisement, peer mentoring, tutorial assistance, study/learning skills, in selected University Core Curriculum courses, and career counseling. For additional information, contact the director of the Center for Basic Skills.

Individualized Two Plus Two Program

The Individualized Two Plus Two program allows baccalaureate oriented freshman students at community colleges to benefit from pre-advisement for a chosen major at Southern Illinois University Carbondale. The Individualized Two Plus Two program addresses specific departmental requirements that a student may not fulfill simply by completing their A.A. or A.S. at their community college. Students who apply for the Individualized Two Plus Two program are provided with a plan that will guide them to the most direct route to their bachelor's degree. The plan includes major gpa requirements and a listing of all required major and University Core Curriculum coursework. Participation in the Individualized Two Plus Two program also allows students to receive notification of deadlines for financial aid and housing. Students are encouraged to visit the campus and meet with their prospective collegiate unit advisers.

Upward Bound

This is a pre-college support program funded by the federal government for students that meet specific income and educational requirements which identifies and recruits ninth to twelfth grade students in specific areas of southern Illinois who have the potential for serious academic work. The program provides developmental, personal, and academic opportunities for students who might not otherwise see themselves as future college students. Persons interested should direct inquiries to the director, Upward Bound.

Southern Illinois Regional Career Preparation Program

The Southern Illinois Regional Career Preparation Program is sponsored by Southern Illinois University Carbondale, John A. Logan and Shawnee Community Colleges. The program is designed to increase motivation, to provide academic enrichment, to encourage career exploration and continued enrollment in school for promising southern Illinois minority students who are 7th, 8th, or 9th and 10th graders. Instruction in critical thinking, computer science, mathematics and career development is provided in the academic year and summer programs. Parents are given information about financial aid and specific guidance in assisting their children in academic and career pursuits. For additional information contact the project director.

Future Scholars Program

The Future Scholars Program at Southern Illinois University Carbondale is a program designed especially for high school minority students who have a true desire not only to attend college but also to excel in college.

Forty selected students, twenty in an advanced group and twenty in an intermediate group, will have the opportunity to experience the University environment first-hand. The Future Scholars Program normally occurs during four weeks in July. Students live in campus residence halls, and attend college courses.

Student Support Services

Student Support Services Program provides comprehensive services to a select group of undergraduate students who meet specific educational and financial criteria. Services include peer mentoring, intrusive academic advisement, workshop, financial aid counseling and other support services designed to help the students make an effective adjustment to the college environment.

The Writing Centers

The Writing Center staff composed of English and Linguistics department graduate assistants and specially trained undergraduate interns, invites all SIUC students to take advantage of the free services offered at the three SIUC Writing Centers. Tutors at all three centers work with students on their writing either on a regular weekly, or first-come, first-served basis. They can help students develop strategies for any stage in the writing process including getting started on essays, organizing and focusing ideas, developing and connecting points clearly, and correcting grammar and punctuation errors. Proofreading is not provided if proofreading is defined as correcting errors for the writer. At every stage in the writing process, the emphasis is on helping students solve their own writing problems and become better writers.

If students want to sign up to see a tutor on a regular basis or for a drop-in session, they should stop at one of our three centers: The Writing Center, Faner 2281 (Entrance 6 or 7); Lesar Writing Center, 205 Lesar Law Building; and Trueblood Writing Center, Trueblood Computer Lab. If you have any questions about our services, phone 453-6863, or visit our web site at <<http://www.siu.edu/~write>>. Writing center brochures are available at any of our locations.

Division of Continuing Education

The Division of Continuing Education extends the University's educational mission beyond regular course offerings and campus boundaries. The division's off-campus credit programs, the Evening/Weekend Program, credit free classes, workshops and conferences, the Individualized Learning program, and the contractual services program offer the University's resources to a variety of groups and individuals both on and off campus.

Off-Campus Credit. Off-Campus credit programs are designed to meet the educational needs of adults wishing to pursue a degree but who are unable to travel to the Carbondale campus. Faculty teaching off-campus courses are approved by the appropriate department. Graduate courses in agriculture, education, and rehabilitation administration, as well as a variety of upper division undergraduate courses are offered at various locations throughout Illinois. An undergraduate degree program in University Studies is available to students at selected, off-campus sites.

Evening and Weekend Program. The Evening and Weekend Program provides individuals within commuting distance of the campus the opportunity to take up to 26 undergraduate hours of college work on a special admission basis. Tuition is the same as for all other undergraduate courses, but students in the program pay reduced fees.

Individuals who possess a high school diploma or GED certificate and who have not been academically suspended from Southern Illinois University Carbondale or any other institution of higher education during the twelve months prior to application for the Evening and Weekend Program are eligible for admission. Students may take course loads not to exceed eight semester hours during fall and spring semesters and up to five hours during summer session. Registration may be completed by telephone and mail.

Individualized Learning. Individuals who cannot attend classes at scheduled times may wish to enroll in an individualized learning course. Such courses are designed to be completed by the students at their own pace and time and, in many instances, in their own home. All courses in the Individualized Learning program are developed by University faculty and approved for academic credit.

Contractual Services. The contractual services office provides specialized educational services to groups, organizations, governmental agencies, and businesses on a cost-recovery basis. These services are provided regionally, nationally, and internationally.

Conferences and Special Programs. Conferences, workshops, seminars, short courses, institutes and teleconference are offered both on and off campus. The division assists with the development, implementation, evaluation and financial accounting for these programs. Major emphasis is on extending the educational, cultural and physical resources of the University to the local, state, national and international community.

The Professional Development Series is offered through short term formats. This series features instruction by University faculty and carefully selected specialists from business and industry. Continuing Education Units (CEU) are available for many of these offerings and many meet mandated professional education requirements. Participants in this program often include professionals from outside the University community.

An award winning Community Listener's Permit Program opens classrooms of SIUC to the people of Southern Illinois. It is a special program that provides people of all ages and walks of life the opportunity to access the college classrooms without enrolling for credit. For a modest fee and the permission of the instructors, participants can sample subjects that interest them the most from "art history" to "zoology".

Military Programs

The Office of Military Programs is the central administrative unit for the University's various programs for military personnel. Currently, baccalaureate programs are offered through the College of Education, the College of Applied Sciences and Arts, and the College of Engineering. The office serves as the principal point of contact and represents the University with external agencies in matters pertaining to educational programs at military bases. For additional information refer to the section on the Financial Aid Office in Chapter 1, to the Capstone Option in Chapter 3, and credit granted for military experiences in Chapter 2. Students interested in admission should consult the Southern Illinois University Carbondale base representative on the appropriate military base.

Southern Illinois University Carbondale in Niigata, Japan

In May, 1988, Southern Illinois University Carbondale initiated an Off-Campus Academic Program in Nakajo, Niigata, Japan, underwritten and in cooperation with the Municipality of Nakajo. The program offers an intensive English program and pre-major University Core Curriculum courses to Japanese students. The courses are taught by SIUC faculty or by faculty approved by SIUC's respective academic departments. It is expected that students will matriculate to SIUC or other U.S. universities at the sophomore or junior level. Transcripts and credits for the students are generated by SIUC.

A semester or academic year of study abroad in Nakajo, Japan emphasizing Japanese language, culture, and intercultural competence is offered to SIUC and other U.S. students in conjunction with this program. See the following "Opportunities for Study Abroad" for details.

Study Abroad Programs

Study Abroad Programs serves as the information, advising and referral center for

study, work and travel abroad in addition to administering university study abroad programs and exchanges. Additional information for all programs may be obtained from Study Abroad Programs at (618) 453-7670, or by email at <studyabr@siu.edu>. The office is located in room B220 Northwest Annex.

GROUP PROGRAMS

International Studies in Austria. One or two semesters of study in German, Austrian life and culture, political science, business, fine arts and communications at the SIUC program in Austria. All courses, except German, are taught in English and will vary from term to term. No prior German is required although it is recommended. The program is planned for the Fall, 1999 semester.

International Studies in Japan. One or two semesters of study in Japanese language, culture and society are offered at the University's off-campus program in Nakajo, Japan. This program features the opportunity to live with Japanese students and to interact with members of the local community. In addition to Japanese studies courses, students will have the opportunity to take University Core Curriculum courses offered in Japan.

International Student Exchange Program. This exchange program is multilateral and involves one-year placements at 100 study sites worldwide. It is a one-for-one exchange plan under which students pay their normal tuition and fees, including room and board, and apply credit earned toward their degrees. There are study sites in Africa, Asia, Australia, the British Isles, Canada, Europe, and Latin America. Applicants must be mature, have a minimum grade point average of 3.0, and possess the appropriate foreign language skills. Acceptance into the program is considered an honor bestowed in lieu of a scholarship. Most forms of financial aid can be used for this program.

Travel/Study Program. Travel/Study courses are offered during intersessions as well as during the summer months. Students must register four to six months prior to the start of the course and may earn graduate or undergraduate credit depending upon the nature of the course. Approximately ten offerings are available during each academic year, ranging in length from one week to two months. Courses are taught by full-time faculty of Southern Illinois University and most do not require a specialized foreign language background.

Utrecht Network. The University participates in an exchange program with a consortium of European Community universities coordinated by Utrecht University in the Netherlands. There are currently possible exchange sites in Austria, Belgium, Czech Republic, Denmark, France, Germany, Great Britain, Greece, Iceland, Ireland, Italy, Malta, Netherlands, Norway, Portugal, Slovenia, Spain and Sweden.

Council on International Educational Exchange. The University is an institutional member of this organization which sponsors study abroad programs around the world, the International Student ID Card and various work abroad programs. Students may participate in the Council's study abroad programs while maintaining their enrollment through the University.

EXCHANGE PROGRAMS

- Australia:* Curtin University of Technology, Perth (Study Abroad Programs).
- France:* University of Caen (Foreign Languages and Literatures).
- Germany:* University of Hamburg, Hamburg (Foreign Languages and Literatures); University of Mainz, (English/Foreign Languages and Literatures), University of Regensburg, Regensburg (English).
- Great Britain:* West Surrey College of Art and Design, Surrey (School of Art and Design).
- Japan:* Kansai University of Foreign Studies, Hirakata; Meiji University, Tokyo (Study Abroad Programs).

Netherlands: Utrecht School of the Arts (School of Art and Design).

Switzerland: Dolmetscherschule, Zurich Interpreters School, Zurich (Foreign Languages and Literatures).

Information concerning eligibility, requirements, program offerings, and application deadlines may be obtained from the Study Abroad Programs or the department listed.

INDIVIDUAL OPPORTUNITIES

Credit might be earned through (a) a department's independent study courses such as readings, individual research, practicum or related types of courses with prior departmental approval; or (b) a department or college's travel/study course where offered.

OTHER PROGRAMS

Southern Illinois University Carbondale may also grant credit for programs not sponsored by the University. A student may enroll in a study/travel program conducted by a regionally accredited United States institution and transfer the credit to this university. Credits earned in this manner will be evaluated as electives unless a department, program, or the Office of Admissions and Records approved the courses in advance to apply toward specific requirements. Additional information may be obtained from the Study Abroad Programs.

A student may enroll in either a foreign institution or an independent location of a foreign institution. It is important that the student check with the Office of Admissions and Records before registering since many foreign institutions are not accredited. Graduate students should check with the Graduate School. Credits earned in this manner will count as electives only unless a department or program approves them to apply toward specific requirements.

Internships in Washington

Eligible students from Southern Illinois University Carbondale can combine a work and learning experience for credit through the Washington Center. Participants can intern in congressional offices, executive agencies, and with groups in many other areas such as the environment, consumer affairs, journalism, communications, legal affairs, labor relations, health policy, arts, education, science, public relations, urban affairs, and women's issues. Interns also attend seminars taught by representatives of major governmental agencies, interest groups, and corporations.

The Washington Center internships at the University are coordinated through the office of the University Honors Program.

5 / Undergraduate Curricula and Faculty



Undergraduate Curricula and Faculty

This chapter contains information about the undergraduate curricula and courses offered by Southern Illinois University Carbondale. The course descriptions for undergraduate courses are included only. Courses offered for graduate students are included in the Graduate Catalog. Chapter 1 of this bulletin includes a listing of the undergraduate majors and minors offered. Those majors and minors are included in this chapter with a description of the requirements for their completion. This chapter is arranged in alphabetical order..

Explanation of the Curricular Requirements

In the areas of this chapter which describe course requirements for programs, numerals in parentheses in columns of figures pertain to semester hours which satisfy more than one requirement. They are in parentheses to avoid their being added to the total of the column, which would be a duplication of hours required. For example, under the Bachelor of Science major in Animal Science, Agribusiness Economics 204 satisfies part of the University Core Curriculum requirements and contributes three hours toward the 41 hours required. The three hours are also required for the major in animal science, but do not contribute to the printed total of 79 hours.

How to Read Course Numbers

The first entry for each course is a three digit numeral plus, in some cases, a single letter which together with the subject area, serves to identify the course. The first digit indicates that the course is for freshmen, sophomores, juniors, or seniors, depending on whether the digit is 1, 2, 3, or 4. If the digit is 0, the course is not properly in the above categories with the exception of Music courses. A letter following the three numerals may indicate a *part* of a course (where *a* means first part, *b* means second part, etc.) or may identify the topics or subject areas specified in courses such as readings or special problems. A numeral or numerals separated from the identification number by a dash indicates the number of hours of credit received in the course. For example, Physics 203-6 (3,3) indicates a sophomore-level, two-part course of 6 hours in the Department of Physics. The two parts of the course may be referred to as Physics 203a,b. The credit may also be variable, such as Accounting 491-1 to 6. Variable credit courses which have a number of credit hours per semester or per topic which is limited, have those limits in parentheses following the total maximum hours of credit. An example of such a course is Administration of Justice 492-2 to 6 (2 to 3 per section). Next is the title, followed by a description of the course. If certain requirements must be satisfied before enrollment in a course, they are listed as prerequisites. If a course is a part of the pass/fail system, it is so indicated.

Some courses are crosslisted with other courses. These courses will have the other course name and number in parenthesis after the course title. Some courses will have an Illinois Articulation Initiative number listed which will appear in brackets; for example, English 121-3 The Western Literary Tradition [IAI course: H3900]. For more information on the IAI see Chapter Three.

Not all of the courses described here are offered every semester or even every year. To determine when and where a course is to be offered, consult the *Schedule of Classes* obtainable from your academic adviser.

Course Fees

Some courses have fees attached to their registration. These fees cover such items as laboratory fees, field trips, printing of materials, and supplies. These fees are published in the class schedule but are subject to change. For the correct fee, contact the department that offers the class or Admissions and Records.

Accountancy (School)

The School of Accountancy is dedicated to the discovery, the interpretation and the dissemination of knowledge to students, the profession and colleagues.

Accounting is the process of identifying, measuring, and communicating economic information to permit informed judgments and decisions by users of the information. Such information is required and used by parties, both internal and external to a business, a not-for-profit organization, and other entities.

The curriculum is designed to prepare a student with basic conceptual accounting and business knowledge necessary to develop a foundation for accounting career development. The curriculum consists of three segments, each designed for a specific purpose. The University Core Curriculum segment is designed to develop students' capacity for inquiry, abstract logical thinking, and critical analysis. A knowledge of humanities, arts, sciences, and general literacy which includes writing, reading, speaking, and listening provides the broad knowledge base and skills upon which to build professional study. The second segment provides general business and professional accounting education. The primary purpose of this segment is to provide students with the knowledge, sensitivities, and abilities all accountants should have for entry into the accounting profession and the capacity to apply these qualities under reasonable supervision. A broad systems orientation as well as a more specific professional accountancy orientation is developed within this segment. The third segment dealing with specialization is very limited at the undergraduate level. A student desiring to specialize in taxation, audit/systems, or other areas should consider graduate study through a fifth year and the Master of Accountancy degree. For those preparing to sit for the CPA exam after the year 2000, the five year sequence will be required by the AICPA and most states, including Illinois and Missouri.

Accounting majors must achieve a 2.0 grade point average in accounting prefix courses taken at Southern Illinois University Carbondale, as well as meet the College of Business and Administration's graduation requirement of 2.00 grade point average in business-prefix courses taken at Southern Illinois University Carbondale. In addition they must also achieve a grade of C or better in upper-level accounting-prefix courses taken at Southern Illinois University Carbondale offered to satisfy the requirements of the major in accounting. The School of Accountancy enforces all prerequisites for accounting prefix courses which may in some cases include a grade higher than C.

PROGRAM OBJECTIVES FOR STUDENTS

Students graduating with an undergraduate degree in accounting should possess a basic understanding of conceptual accounting concepts (financial, taxation, auditing, managerial and accounting information systems) such that they would be able to prepare, analyze and communicate accounting information. Students graduating with an undergraduate degree should also be able to effectively communicate in a business setting both orally and in the written form. Graduates should be able to apply their accounting knowledge to unstructured problems, to work effectively in a team environment and to work effectively in a computer based environment.

Accounting (Major, Courses)

Bachelor of Science Degree, College of Business and Administration

<i>University Core Curriculum Requirements</i>	41
<i>Professional Business Core (See Chapter 4)</i>	41
<i>Requirements for Major in Accounting</i>	24
Accounting 321, 322 and 421 (financial)	9

Accounting 331 (managerial)	3
Accounting 341 (tax)	3
Accounting 361 (auditing)	3
Accounting 451 (systems)	3
Accounting 431 (advanced cost), 441 (advanced tax) 471 (not for profit) or 495 (internship)	3
<i>Electives</i>	14
Electives (outside of Accounting)	5
Electives (outside of Business)	6
English 291	3
<i>Total</i>	120

Accounting Suggested Curricular Guide

FIRST YEAR		FALL	SPRING	SECOND YEAR		FALL	SPRING
ENGL 101, 102.....	3	3		ACCT 220, 230.....	3	3	
UCC Science	3	3		ECON 241, 240	3	3	
UCC Fine Arts	3	-		ACCT/MGMT 208.....	3	-	
PSYC 102.....	-	3		CS 200b or IMS 229	-	3	
UCC Humanities	3	-		UCC Humanities.....	3	-	
UCC Human Health.....	-	2		MGMT 202	-	3	
MATH 139, 140	3	4		SPCM 101	3	-	
				UCC Integrative Studies	-	3	
<i>Total</i>	15	15		<i>Total</i>	15	15	
THIRD YEAR		FALL	SPRING	FOURTH YEAR		FALL	SPRING
ACCT 321, 322.....	3	3		ACCT 361, 451	3	3	
ACCT 331, 341.....	3	3		ACCT 421.....	3	-	
MGMT 304.....	3	-		ACCT 431, 441, 471 or 495	-	3	
FIN 330.....	-	3		MGMT 318, 481	3	3	
UCC Integrative Studies	3	-		FIN 270 ² (or FIN 280/380 opt)	3	-	
MKTG 304.....	-	3		Approved Elective ¹ (or FIN 380 ²).....	-	3	
ENGL 291.....	3	-		Approved Elective ¹	3	3	
BUS 302	-	1					
Approved Elective ¹	-	2					
<i>Total</i>	15	15		<i>Total</i>	15	15	

¹120 semester hours are required for graduation. Approved electives should be selected in consultation with academic advisor to meet this requirement.

²The combination of Finance 280 (Business Law I) and Finance 380 (Business Law II) may be substituted for Finance 270 and is highly recommended for Accounting majors.

Accounting Minor

A minor in Accounting consists of a minimum of 15 semester hours, including Accounting 220, 230 and nine credit hours in Accounting at the 300 level or above. All prerequisites for these classes must also be satisfied. At least nine of the fifteen semester hours must be taken at Southern Illinois University Carbondale. An advisor within the College of Business and Administration must be consulted before selecting this field as a minor.

Accounting Courses (ACCT)

208-3 Business Data Analysis. (Same as Management 208). Uses of data in policy formulation are discussed. Emphasis is placed on the conversion of raw information into statistics which are useful to the decision-maker. Problems stress solution to questions typically raised in businesses. Prerequisite: Mathematics 139 or equivalent.

210-3 Accounting Principles and Control. Prevalent accounting principles and practices employed in business organizations. Accumulation of data and usefulness of reports are considered. Tax implications of business studied. Not open to students with a major in the College of Business and Administration. No credit given for 210 if credit is claimed for 220.

220-1 to 3 (1,1,1) Accounting I. Three sequential one credit courses which, in the aggregate, cover the basic concepts, principles and techniques used to generate accounting data and financial statements and to interpret and use the financial data to enhance decision making. Students must initially enroll in all three courses and must successfully complete 220a prior to beginning 220b and 220b before beginning 220c. Students who do not successfully complete all three course in the semester in which they initially enroll in the courses will receive a grade of PR for any of the courses not completed. Those students who receive a grade of PR in one or more of

the courses must re-enroll in all unsuccessfully completed courses in subsequent semesters. Prerequisite: Sophomore Standing.

230-3 Accounting II. A continuation of Accounting I with emphasis on the analysis and interpretation of accounting reports including ratios and funds flow analysis. The use of accounting information for managerial planning, control, and decision making through budgeting, cost and variance analyses, and responsibility accounting. Prerequisite: for accounting majors and minors, pass 220 or equivalent, with a grade of C or better; sophomore standing.

240-3 Individual Income Tax. Preparation of income tax returns. Federal income tax as applied to individuals. No credit given for 240 if credit is claimed for 341. Not open to those with a major in accounting.

321-3 Intermediate Accounting I. Current accounting principles and procedures relating to elements of financial reporting. Particular emphasis on current and fixed asset valuation. Includes learning spreadsheet program. Prerequisite: junior standing and limited to business majors and minors or consent of school; pass 220 and 230 or equivalent with a grade of C or better.

322-3 Intermediate Accounting II. Continuation of the study of accounting principles and procedures with emphasis on liabilities, corporate capital, and income determination. Preparation and use of special statements; analysis and interpretation of statements. Prerequisite: junior standing and limited to business majors and minors or consent of school; passed 321 with grade of C or better.

331-3 Cost Accounting. Interpretation and managerial implications of material, labor, and overhead for job order, process and standard cost systems, cost-volume-profit relationships, direct costing, and budgeting. Accounting for complex process production flows, joint and by-products, spoilage, and scrap. Responsibility accounting and reporting. Prerequisite: junior standing and limited to business majors or consent of school; for accounting majors and minors, pass 230 with a grade of C or better.

341-3 Introduction to Taxation. Background, principles, and procedures for the determination of taxable income as a basis for federal income tax. Particular attention is given those aspects which are at variance with usual accounting treatment in the determination of net income. Includes practice in the methodology of tax solutions. No credit given for 341 if credit is claimed for 240. Prerequisite: junior standing and limited to accounting majors and minors or consent of school; for accounting majors and minors, a grade of C or better in both 220, 230 or equivalent courses.

361-3 Auditing. Standards, objectives, and procedures involved in examining and reporting on financial statements of business organizations. Prerequisite: junior standing and limited to accounting majors and minors or consent of school; a grade of C or better in 322.

421-3 Advanced Accounting. Accounting principles and procedures relating to specialized topics, including partnership equity, installment and consignment sales, fiduciaries, international operations, branches, and business combinations. Prerequisite: junior standing and limited to accounting majors and minors or consent of school; a grade of C or better in 322.

431-3 Advanced Cost Accounting. Managerial decision making; profit planning and control through relevant costing, return on investment and transfer pricing, determination of cost behavior patterns, analysis of variances, capital budgeting, inventory models, probabilities, statistical methods, and operations research. Prerequisite: junior standing and limited to accounting majors and minors or consent of school; 331 with grade of C or better.

441-3 Advanced Tax. Study of income tax problems which arise from sole proprietorship, partnership, corporation, estate, and trust of organization. Brief study of social security, federal and state estate tax and gift tax. Student does research in source materials in arriving at solutions of complicated problems. Prerequisite: junior standing and limited to accounting majors and minors or consent of school; 341 with grade of C or better.

451-3 Accounting Systems Operation. The study of accounting information systems, their technology and the management decision process supported by those systems. Prerequisite: junior standing and limited to accounting majors or consent of school; a grade of C or better in Accounting 321.

461-3 Advanced Auditing. The study and application of selected auditing concepts and techniques. Hands-on application will be emphasized. Prerequisite: junior standing Accounting 361 with grade of C or better.

471-3 Accounting for Public Organizations. Financial and managerial accounting concepts peculiar to the planning and administration of public and quasi-public organizations, such as governmental units, institutions, and charitable organizations. Includes the conventional budgetary-appropriation process, as well as some of the more recent accounting developments related to public decision making. Prerequisite: for accounting majors and minors, 230 with grade of C or better.

491-1 to 6 Independent Study in Accountancy. Independent study of specialized aspects of accountancy not available through regularly scheduled courses. Not for graduate credit. Prerequisite: a grade of C or better in each of 322, 331, 341, and consent of school.

495-3 Internship. Supervised work experience in professional accounting. Prerequisite: outstanding record in accounting and recommendation of the school committee on internship. Mandatory Pass/Fail only. Not for graduate credit.

Accounting Faculty

Amam, Sue A., Lecturer, C.P.A., M.Acc., Southern Illinois University, 1984.

Burger, Clifford R., Professor, Emeritus, C.P.A., M.S., Indiana State University, 1947.

Basi, Bartholomew A., Professor, Emeritus, C.P.A., J.D., D.B.A., Indiana University, 1971.

Gribbin, Donald W., Associate Professor, C.P.A., Ph.D., Oklahoma State University, 1989.

Hahn, Randall, Associate Professor, C.P.A., D.B.A., University of Kentucky, 1984.

Hendricks, Scott, Lecturer, M.Acc., J.D., Southern Illinois University, 1984.

Karnes, Allan, Professor, *Director*, C.P.A., M.A., J.D., Southern Illinois University, 1986.

King, James B., II, Associate Professor, C.P.A., Ph.D., Indiana University, 1987.

Lumbattis, Cathy, Lecturer, C.P.A., M.B.A., Southern Illinois University Edwardsville, 1975.

Masoner, Michael, Associate Professor, C.P.A., Ph.D., University of Minnesota, 1975.

Odum, Marcus, Assistant Professor, C.P.A., Ph.D., Oklahoma State University, 1991.

Rivers, Richard A., Professor, C.P.A., D.B.A., Kent State University, 1976.

Schmidlein, Edward J., Jr., Professor, *Emeritus*, C.P.A., Ph.D., New York University, 1953.

Sobery, Julie S., Associate Professor, C.P.A., Ph.D., St. Louis University, 1982.

Swick, Ralph D., Professor, *Emeritus*, C.P.A., D.B.A., Indiana University, 1954.

Tucker, Marvin W., Professor, *Emeritus*, Ph.D., University of Alabama, 1966.

Wacker, Raymond F., Associate Professor, C.P.A., Ph.D., University of Houston, 1989.

Welker, Robert B., Professor, Ph.D., Arizona State University, 1976.

Wright, Roland M., Professor, *Emeritus*, C.P.A., Ph.D., University of Iowa, 1962.

Wu, Frederick H., Professor, *Emeritus*, Ph.D., Texas Tech University, 1975.

Administration of Justice (Major, Courses)

The Bachelor of Arts degree with a major in administration of justice meets the objectives of students interested in law enforcement, the courts, corrections, juvenile justice, criminal behavior and other aspects of crime and criminal justice.

The curriculum is designed to provide students with a broad view of crime and criminal justice. Building on the fundamental knowledge developed in core courses and a restricted set of electives, students can select from a variety of other courses to gain in-depth, specialized knowledge about their particular areas of interest within the curriculum. Under faculty guidance, students may take supplemental courses -- computer science, accounting, management, and foreign language, for example -- to complement their special interests. This approach provides a sound foundation in administration of justice while allowing the flexibility necessary to accommodate individual interests and needs.

A field internship placement may be an important element in the program and is encouraged for interested students who meet departmental criteria.

The program requires that each administration of justice major complete a minor in some other field of study. This requirement can be satisfied by completing the minor offered by any other four-year program at SIUC.

Bachelor of Arts Degree, College of Liberal Arts

ADMINISTRATION OF JUSTICE MAJOR

<i>University Core Curriculum Requirements</i>	41
<i>College of Liberal Arts Academic Requirements (See Chapter 4)</i>	14
<i>Requirements for Major in Administration of Justice</i>	33
Core Requirements: 201, 290, 310, 316, 492 (or another 400-level administration of justice course designated as fulfilling the CoLA Writing-Across-the-Curriculum requirement)	15
Administration of Justice Electives: 18 hours, at least 9 of which must be selected from 302, 306, 317, 320, 350, 384, 415, 462, 473, 474; in addition at least 6 of the 18 hours must be selected from 400-level courses.	18
<i>Minor</i>	18
<i>Electives</i>	14
<i>Total</i>	120

Completion of Administration of Justice 201 and 290 (or consent of the instructor) is required for taking any 300- or 400-level administration of justice course. In addi-

tion, completion of Administration of Justice 316 (or consent of instructor) is required for taking any 400-level administration of justice course. Other prerequisites may be associated with individual courses; refer to the catalog description of the specific course.

No more than three hours of Administration of Justice 395 can be counted toward the major.

At least 15 of the credit hours applied toward completion of the requirements of a B.A. in administration of justice must have been earned in Administration of Justice courses offered at SIUC.

Administration of justice majors are encouraged to take the Core Curriculum course, Administration of Justice 203. However, Administration of Justice 203 can be counted toward the 33 hours in the administration of justice major only if the student fulfills the Core Curriculum Integrative Studies (Multicultural) requirement with some course other than Administration of Justice 203.

A student may substitute Psychology 323 or Social Work 383 for Administration of Justice 301; Political Science 340 for Administration of Justice 302; Psychology 211, Sociology 312, or Political Science 300 for Administration of Justice 316.

Administration of Justice Suggested Curricular Guide

FIRST YEAR			SECOND YEAR		
	FALL	SPRING		FALL	SPRING
Select (Sci) ¹	3	3	SPCM 101 ¹	3	-
Select (Soc Sci) ¹	3	3	Select (Fine Arts) ¹	-	3
Select (Humanities) ¹	3	3	Select (Integrated Stdy) ¹	3	3
ENGL 101, 102	3	3	Select (Foreign Languages)	4	4
Core Mathematics.....	3	-	Select (Human Hlth) ¹	2	-
AJ 201	-	3	AJ 290, AJ 316	3	3
			AJ 300-Level ²	-	3
Total.....	15	15	Total.....	15	16
THIRD YEAR			FOURTH YEAR		
	FALL	SPRING		FALL	SPRING
Science ³	3	-	AJ 492	3	-
AJ 310	3	-	AJ 400 level	-	3
AJ 300-400 level.....	3	6	AJ 300-400 levels	3	3
English	-	3	Minor courses.....	3	3
Minor courses.....	6	6	Electives	6	5
Total.....	15	15	Total.....	15	14

¹ See University Core Curriculum
²Students may substitute Psychology 323 or Sociology 383 for Administration of Justice 301; Political Science 340 for Administration of Justice 302; Psychology 211, Sociology 312 or Political Science 300 for Administration of Justice 316
³CoLA requires one science with lab course beyond University Core Curriculum requirements

Minor

A minor in administration of justice consists of 18 hours of administration of justice courses, which must include 201 and 290. At least 12 of the 18 hours must consist of administration of justice courses taken at SIUC.

Courses (AJ)

- 201-3 Introduction to Criminal Justice System.** Survey of the agencies and processes involved in the administration of criminal justice. The history of English law; the criminal justice process and system, including underlying ideologies, procedures, fundamental legal concepts, and the roles and functions of police, courts, and correctional services.
- 203-3 Crime, Justice and Social Diversity.** (University Core Curriculum) This course examines how social heterogeneity and inequality influence the processes involved in the definition and regulation of behavior through law, particularly the criminal law. Factors such as race, ethnicity, gender and class are related to definitions of crime and justice, and to the likelihood of being the victim of crime. The differential influence of the operations and outcomes of the criminal justice system on diverse groups in U.S. society is emphasized.
- 216-3 Legal Studies in Liberal Arts.** This course focuses on the relationship between law and other social institutions, patterns of law-making and law-breaking, the values that are expressed in law and shaped by legal structures and processes, and law as an instrument of public policy, social control and social change. The course is offered for those interested in the discipline of law as a field of critical inquiry within a framework of a broad liberal arts education. This course also serves as a requirement for the administration of justice legal studies minor.

- 290-3 Introduction to Criminal Behavior.** Multidisciplinary study of the etiology and patterning of offender behavior.
- 300-3 Assessment of Offenders.** Introduction to the procedures and issues of identifying and evaluating individual differences in offenders and among classes of offenders; analysis of typical diagnostic methods. Prerequisite: 201 and 290 or consent of instructor.
- 301-3 Human Relations in Criminal Justice.** Delineation of major interactive patterns among staff members, between staff and clients, and among clients of probation and parole agencies and correctional agencies; introduction to problems of communication, bureaucracy, and leadership. Prerequisite: 201 and 290 or consent of instructor.
- 302-3 Introduction to Criminal Justice Administration.** An introduction to the principles of administration and organization of criminal justice agencies. Prerequisite: 201 and 290 or consent of instructor.
- 303-3 Behavioral Aspects of Investigation.** Principles of behavioral science are applied to the recurrent patterns of criminal investigation as a social and fact-finding process; survey of criminalistics. Prerequisite: 201, 290 or consent of instructor.
- 306-3 Policing in America.** Examines police as part of society's official control apparatus. Major topics include historical development of the police, role of the police in the criminal justice system, functions and effectiveness of the police, and the relationship of the police to the communities they serve. Prerequisite: 201 and 290 or consent of instructor.
- 310-3 Introduction to Criminal Law.** The nature and theories of law and social control; legal reasoning and case analysis; simple legal research; statutory construction; principles and history of punishment; constitutional, historical, and general legal principles applicable to the criminal law. Prerequisite: 201 and 290 or consent of instructor.
- 316-3 Introduction to Criminal Justice Research.** A basic introduction to the scientific perspective, relationship of research and theory, research design, measurement issues, reporting of research and program evaluation. Emphasis on problems peculiar to criminological research. Prerequisite: 201 and 290 or consent of instructor.
- 317-3 Data Analysis in Criminal Justice.** Covers basic statistical issues such as properties of single variables, association between pairs of variables, and statistical inference in relation to criminal justice data. Additional topics, such as analysis of aggregated data and prediction, address specific criminal justice concerns. Prerequisite: 201, 290, and 316 or consent of instructor.
- 320-3 Prosecution and Adjudication.** Examination of the structure and process involved in the prosecution, adjudication, and sentencing of criminal defendants. The exercise of prosecutorial and judicial discretion is analyzed, with emphasis placed on understanding the influence of legal, organizational, and environmental contexts on decision-making. Prerequisite: 201 and 290 or consent of instructor.
- 344-3 Drug Use.** Types of drugs, drug impact on the American culture, legal and illegal uses of drugs, offenses related to drug use, reaction of the criminal justice system to drugs and drug users, and the treatment and prevention programs coping with drug use. Prerequisite: 201 and 290 or consent of instructor.
- 348-3 Treatment Modalities.** Various treatment methods used throughout the criminal justice system. Explanation and evaluation of various treatment techniques; e.g., behavior modification, transactional analysis and other individual and group therapies. Prerequisite: 201 and 290 or consent of instructor.
- 350-3 Introduction to Private Security.** Examines the roles and functions of proprietary and contract security, loss prevention and asset protection measures in the private sphere. Emphasis is placed on examining contemporary events and factors which influence how, when and why security measures can be applied and measuring their contribution and effectiveness. Prerequisite: 201 and 290 or consent of instructor.
- 384-3 Introduction to Corrections.** (Same as Sociology 384.) Examination of the historical context, philosophical concepts, and major developments which have shaped corrections in the United States. Various sentencing options, correctional approaches and programs, the role of corrections in the larger criminal justice system, and contemporary correctional issues are examined. Prerequisites: 201 and 290.
- 390-1 to 4 Readings in the Administration of Justice.** In-depth, introductory and advanced readings in areas not covered in other Administration of Justice courses. The student must submit a statement describing the topic and relevant reading materials to the faculty member sponsoring the student's readings. Prerequisite: 201 and 290 and consent of instructor.
- 395-3 to 15 Supervised Field Experiences in the Administration of Justice.** Familiarization and direct experience in applied settings. Under supervision of faculty and adjunct staff, the student assumes a student-participant role in the criminal justice agency. Student must submit internship application during the first thirty days of the preceding spring or fall semester. Prerequisite: 201, 290, 12 additional hours of administration of justice courses at SIUC; minimum gpa of 2.5 overall in Administration of Justice courses prior to the internship experience or consent of department. Mandatory Pass/Fail.
- 402-3 Group and Family Treatment in Criminal Justice.** Presentation of theoretical knowledge and practical techniques utilized in major group and family treatment approaches for adults and juveniles in institutions, community-based correctional programs, and transitional living situations. Prerequisite: 201, 290, and 316 or consent of instructor.
- 403-3 to 9 (3 per topic) Enforcement Operations.** (a) Advanced investigation; (b) Enforcement management; (c) Enforcement discretion. Each course topic focuses on a major theme in law enforcement. Prerequisite: (a), (b), and (c): 201, 290 306 and 316 or consent of instructor; additionally for (a) 303; and for (b) 302.
- 408-3 Criminal Procedure.** An introduction to the procedural aspects of criminal law pertaining to police powers in connection with the laws of arrest, search and seizure, the exclusionary rule, civil liberties, eavesdropping, confessions, and related decision-making factors. Prerequisite: 201, 290, 310, and 316 or consent of instructor.

415-3 Prevention of Crime and Delinquency. Multidisciplinary analysis of the functions, goals, and effectiveness of measures to forestall delinquency and crime. Etiology of delinquent behaviors as related to community institutions such as police, courts, corrections, mental health clinics, schools, churches, and citizen groups. Prerequisite: 201, 290 and 316 or consent of instructor.

418-3 Criminal Violence. Examination of historical, comparative, cultural and social structural aspects of homicide, robbery, rape and assaults. Course focuses on trends and patterns in criminal violence, the role of firearms, victim/offender relationships and post-arrest processing of the offender in the criminal justice system. Prerequisite: 201, 290 and 316 or consent of instructor.

450-3 Public and Private Security. An overview of important issues related to security and loss prevention in the public and private sectors. Covers security's historical development, its current role, and the relationship between the public and private sectors. Prerequisite: 201, 290, 316 and 350 or consent of instructor.

451-3 Forensic Interrogation. Forum on forensic interrogation. Conceptual framework for understanding behavioral and psychological aspects of the process; discussion of historical and philosophical development, use in criminal and private security investigations, legal proceedings, and role in a democratic society. Provides both theoretical grounding and hands-on experience. Prerequisite: 201, 290, and 316 or consent of instructor.

460-3 Women and the Criminal Justice System. (Same as Women's Studies 476.) Addresses the topics of women as offenders, as victims and as workers in the criminal justice system. Prerequisite: 201, 290, and 316 or consent of instructor.

461-3 White-Collar Crime. Examines the physical and financial harm caused by wayward corporations and business employees from both theoretical and empirical perspectives. Emphasis is placed on ethics, theory, legal decision-making and the regulatory monitoring and control of illegal corporate activity. Prerequisite: 201, 290 and 316 or consent of the instructor.

462-3 Victims of Crime. Examines the extent and nature of victimization, theories about the causes of victimization, the effects of crime on victims and services available to deal with those effects, victims' experiences in the criminal justice system, the victims' rights movement and alternative ways of defining and responding to victimization. Satisfies the CoLA Writing-Across-the-Curriculum requirement. Prerequisite: 201, 290 and 316 and the consent of the instructor.

468-3 Law and the Social Control of Women in American History. (Same as History 468, Women's Studies 468) An examination of the ways in which the law affects the behavior, life chances, identities and experiences of women, from colonial times to the present. Team taught by faculty from history and administration of justice.

473-4 Juvenile Delinquency. (See Sociology 473.) Prerequisite: 201, 290, and 316 or consent of instructor.

474-3 Juvenile Justice. The evolving definition of juvenile misbehavior and the legal mechanisms that have emerged to control it. The problems and promise of juvenile justice in terms of the juvenile code and court, law enforcement, custodial and treatment institutions, and community treatment. Prerequisite: 201, 290, and 316 or consent of instructor; 473 or equivalent is recommended.

476-3 Comparative Criminal Justice. Examination of sociocultural and political factors shaping criminality and responses to crime around the world. Similarities and differences in criminogenic conditions and practices of law enforcement and corrections are traced. Prerequisite: 201, 290, and 316 or consent of instructor.

477-3 Theoretical Analysis of Crime. Examination of theories of crime and criminality. Major topic areas include types of theories, the development and testing of theories, explanations of the kinds and degrees of crime observed in society, and explanations of processes involved in the development of criminal behavior. Emphasis is on current directions in theories of crime. Prerequisite: 201, 290, 316 or consent of instructor.

484-3 Correctional Institutions. (Same as Sociology 484.) Examination of the roles, purposes, structures and functioning of institutional corrections within the United States. Emphasis is placed on understanding the philosophies, elements, structures and programs that shape current institutional operations and their impact on offenders, staff and the community. Prerequisite: 201, 290, 316 or the consent of instructor.

485-3 Corrections and the Community. Traditional correctional functions are redefined to emphasize the development of resources in communities, diversion of convicted offenders from institutions, and direct involvement of correctional programs in community affairs. Prerequisite: 201, 290, and 316 or consent of instructor.

490-1 to 3 Independent Study in the Administration of Justice. Supervised readings or independent research projects in various aspects of crime control, treatment of offenders, and the management of criminal justice programs and agencies. May be repeated up to a maximum of three credit hours. Prerequisite: 201, 290, and 316 and consent of the instructor.

492-3 Contemporary Issues in Administration of Justice. A forum, geared toward seniors majoring in administration of justice, that focuses on criminal justice issues of concern to students and faculty. May re-enroll for a maximum of six credits. Satisfies the CoLA Writing-Across-the-Curriculum requirement. Prerequisite: 201, 290, and 316 and consent of instructor.

Administration of Justice Faculty

Anderson, Dennis B., Associate Professor, Ed.D., University of Nebraska, 1970.

Castellano, Thomas C., Associate Professor, Ph.D., State University of New York at Albany, 1986.

Coughlin, Joseph S., Professor, *Emeritus*, M.S.W., University of Wisconsin, 1954.

Cuadrado, Mary, Assistant Professor, Ph.D., City University of New York, 1995

Ferdinand, Theodore N., Professor, *Emeritus*, Ph.D., University of Michigan, 1961.

Garofalo, James, Professor and *Chair*, Ph.D., State University of New York at Albany, 1978.

Johnson, Elmer H., Distinguished Professor, *Emeritus*, Ph.D., University of Wisconsin, 1950.
LeBeau, James L., Associate Professor, Ph.D., Michigan State University, 1978.
Lorinskas, Robert A., Associate Professor, Ph.D., University of Georgia, 1973.
Matthews, Charles V., Associate Professor, *Emeritus*, M.S., University of Kansas City, 1951.
McDermott, M. Joan, Associate Professor, Ph.D., State University of New York at Albany, 1979.

Moberly, Michael D., Assistant Professor, M.P.A., Indiana University, 1981.
Riedel, Marc P., Associate Professor, Ph.D., University of Pennsylvania, 1972.
Robinson, Cyril D., Professor, *Emeritus*, LL.B., Northwestern University, 1952.
Small, Mark A., Associate Professor, J.D., Ph.D., University of Nebraska, 1990.
Szockyj, Elizabeth, Assistant Professor, Ph.D., University of California-Irvine, 1992.

Advanced Technical Studies (Major, Courses)

The Bachelor of Science degree in Advanced Technical Studies (ATS) is designed specifically for the student who has entered a career path for which a traditional baccalaureate degree is not available. The student develops an individualized learning contract with the assistance of an Advanced Technical Studies adviser. The Advanced Technical Studies major is designed to build upon an individual's educational and occupational experiences through courses selected to meet technical career objectives. It is ideally suited for community college and technical institute graduates possessing occupationally-oriented associate degrees. Students interested in technical areas not available through associate degrees are also encouraged to consider this major. The individualized nature of this program affords the flexibility to meet the needs of students from many diverse backgrounds who desire to enhance their career opportunities and develop skills in management of their technology.

The Capstone Option is available for eligible students who have obtained an Associate of Applied Science (AAS) degree or its equivalent and have a gpa of 2.25 on a 4.0 scale on all accredited coursework prior to the award of the AAS degree. Application to the Capstone Option must be made no later than the end of the student's first semester in the baccalaureate degree program. See Chapter 3 for more information regarding the Capstone Option.

Graduates find employment in business and industry in such fields as manufacturing, construction management, heating and air conditioning, data processing systems, drafting/design, graphic design, advertising, property management and small business applications.

Bachelor of Science Degree, College of Applied Sciences and Arts

The Bachelor of Science degree in Advanced Technical Studies requires a minimum of 120 semester hours, with a minimum of 60 semester hours at SIUC or an accredited four-year college.

<i>University Core Curriculum Requirements</i> ¹	41
<i>Requirements for Major in Advanced Technical Studies</i>	36
ATS Core Requirements (or approved equivalents): Advanced Technical Studies 364, 383, 416, and one of the following: 332 or 421	12
Nine hours selected from Advanced Technical Studies 361, 362, 363, 421, 426, 464, 483 or approved equivalents	9
Fifteen hours of approved upper level electives	15
<i>Approved Technical or Career Electives</i>	43
An associate in applied science degree from an accredited community college meets this requirement.	
A maximum of 12 credit hours of internship, work experience or independent study may be part of these 43 hours.	
Total	120

¹The first and second years are usually satisfied by an Associate of Applied Science (AAS) degree and students enter ATS as juniors.

Advanced Technical Studies Suggested Curricular Guide¹

THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
ATS 416	3	-	ATS 464	3	-
ATS 364	3	-	ATS 332 or 421.....	-	3
ATS 383	-	3	University Core ¹	6	6
University Core ¹	3	6	ATS 483 and/or Approved		
ATS 361 or 362 ²	3	-	Electives ²	3	3
ATS 362 or 426 ²	-	3	Approved Elective	3	3
Approved Elective.....	3	3	Total	15	15
Total.....	15	15			

¹Some students will have transferred in with more university core course equivalents than other students. Those needing less core or just hours at a four-year school can substitute elective courses, work experience or internship.
²Certain AAS majors may substitute advanced coursework offered by the college, AAS majors or other Advanced Technical Studies courses.

Courses (ATS)

- 258-1 to 30 Work Experience Credit.** Credit granted for job skills, management-worker relations and supervisory experience for past work experience while employed in industry, business, the professions, or service occupations. Credit will be established by department evaluation.
- 259-1 to 60 Occupational Education Credit.** A designation for credit granted for past occupational educational experiences related to the student's educational objectives. Credit will be established by departmental evaluation.
- 319-1 to 15 Occupational Internship.** Each student will be assigned to a University approved organization engaged in activities related to the student's academic program and career objectives. The student will perform duties and services as assigned by the preceptor and coordinator. Reports and assignments are required to be completed by the student. Hours and credits to be individually arranged. Mandatory Pass/Fail.
- 320-1 to 10 Work Study Internship.** Provides work-study students with an opportunity to participate in an on-campus work experience related to their academic program and career objectives. Hours and credits are to be individually arranged. Mandatory Pass/Fail.
- 321-3 Seminar in Applied Sciences and Arts.** This course is designed to allow College of Applied Sciences and Arts' students to become knowledgeable of specific and current requirements in the profession to which they aspire. Subject matter will be determined by academic major.
- 332-3 Labor-Management Problems.** Students will gain a general understanding of the economic situation of which labor-management problems represent a subset. They will develop a perspective on the evolution of labor relations in the United States economy and on how the interaction of labor and management differs throughout the world. The collective bargaining section introduces the student to the techniques of bargaining used by labor and management in their ongoing interactions. Lecture three hours.
- 350-1 to 32 Technical Career Subjects.** In-depth competency and skill development and exploration of innovative techniques and procedures used in business, industry, professions, and health service occupations offered through various workshops, special short courses, and seminars. Hours and credit to be individually arranged. This course may be classified as independent study. Prerequisite: consent of instructor.
- 361-3 Fiscal Aspects of Technical Management.** An introduction to fiscal structures and problems encountered in the technically oriented enterprise. Lecture three hours.
- 362-3 Legal Aspects of Technical Management.** An introduction to the types of legal problems encountered in the technically oriented enterprise. Lecture three hours.
- 363-3 to 15 (3,3,3,3,3) Special Topics in Technical Management.** Specialized study for the investigation of management problems relating to the student's career objective. (a) Management field experience. Structured practical experience in a controlled management environment. (b) Research management applications. Studies of management techniques as practiced in the profession. (c) Comparison analysis of organizational strategies in the professions. (d) Current trends. Readings regarding economic trends impacting upon the business or profession. (e) Employee relations. Study of the techniques of employee relationships to include the dynamics and procedures required for managing the work center. Need not be taken sequentially.
- 364-3 Work Center Management.** A study of the problems of managing a small working unit (division, department, work center, section, etc.) within a larger unit (agency, company, regional office, etc.). Included items will be work center goals identification, staffing needs, monitoring of work process reporting, work center communications, and interpersonal relations within the work center. Lecture three hours.
- 383-3 Data Interpretation.** A course designed for students beginning their major program of study to examine data use in their respective professions. Emphasis will be placed upon an understanding of the basic principles and techniques involved with analysis, synthesis, and utilization of data. Prerequisite: University Core Curriculum mathematics requirement or consent of major department.
- 412-3 Grantsmanship.** Provides the student with an understanding of the availability of public and private funding in a specific technical area, how to apply for such funds, the process for approving such applications for funding, how the grants are administered once awarded, and who the funding agencies, companies, or foundations are. Each student will prepare a grant proposal including objective statements, study methodology, work program, work schedule, program budget, end products, and overall packaging. Not for graduate credit.

416-3 Applications of Technical Information. This course is designed to increase student competence in analyzing and utilizing various types of technical information encountered by managers in technical fields. Not for graduate credit. Prerequisite: English 101 or consent of department.

421-3 Professional Development. Introduces students to the various elements involved in obtaining a position in their chosen career field. Topics included are: personal inventories, placement services, employment agencies, interviewing techniques, resumes, letters of application, references, and employment tests. Each student will develop a portfolio including personal and professional information related to individual career goals. Not for graduate credit. Prerequisite: enrollment in the College of Applied Sciences and Arts baccalaureate program or consent of instructor.

426-3 Technology and International Trade. The international trade of products and services is studied by examining the technology development and transfer concerns of transnational corporations and national governments in industrialized, newly industrialized and developing countries.

464-3 Managing For Quality. The course focuses on management techniques used to upgrade the level of quality of products and services in organizations. Topics cover the process of continuous quality improvement: strategies and objectives, quality measures, participative management practices, worker empowerment, customer preferences and expectations, vendor/supplier inputs, process technology outputs, integrated feedback loops, and quality audits and review. Lecture three hours. Prerequisite: 364 or consent of instructor.

483-3 Design of Process Control Systems. Specialized study of the design of quality control for the improvement of processes and to enhance product or service outcomes. Instruction will focus on the construction of Statistical Process Control (SPC) diagrams and charts appropriate to the technologies found in various types of work environments. The major course project requires students to design aspects of an SPC program based on their specialty area. Lecture three hours. Prerequisite: 383 or consent of instructor.

Technical and Resource Management Faculty

Clarke, David S., Professor, Ph.D., California University for Advanced Studies, 1986.

Graziano, Joseph R., Assistant Professor, M.S., Eastern Kentucky University, 1971.

Hertz, Vivienne, Associate Professor, *Emerita*, Ph.D., Southern Illinois University Carbondale, 1980.

Hoffman, Nancy L., Visiting Instructor, *Emerita*, M.S., Southern Illinois University Carbondale, 1969.

Horton, John B., Visiting Assistant Professor, *Emeritus*, M.Ed., Clemson University at Carbondale, 1972.

Laedtke, Ralph, Visiting Assistant Professor, *Emeritus*, M.A., Webster College, 1977.

Magney, John, Assistant Professor, Ph.D., University of Michigan at Ann Arbor, 1977.

Novick, Jehiel, Assistant Professor, *Emeritus*, Ph.D., Southern Illinois University Carbondale, 1970.

Richard, Harold, Associate Professor, *Emeritus*, Ed.D., Pennsylvania State University, 1976.

Robb, James A., Associate Professor, *Emeritus*, Ph.D., Southern Illinois University Carbondale, 1974.

Walton, Gary, Visiting Assistant Professor, M.A., Webster College,

Yates, Loyd, Assistant Professor, Ph.D., Southern Illinois University Carbondale, 1981.

Aerospace Studies (Air Force ROTC) (Department, Minor, Courses)

Aerospace Studies offers two and one half, three and four-year programs, leading to a commission as a second lieutenant in the United States Air Force. The four-year program is divided into the General Military Course (GMC), covering the freshman and sophomore years, and the Professional Officer Course (POC), covering the last two years for which cadets are competitively selected. Students in the four-year program attend a four-week field training course in the summer between their sophomore and junior year. Students can qualify to enter the two-year program at the POC level by attending a five-week field training course during the preceding summer. However, since field training selections are made in the early spring students must indicate their intent as early as possible in the school year.

The GMC prepares students for the POC and provides them with an education using core values whether they remain civilians or become officers in the U.S. Air Force. The courses of the POC are designed to provide the basic knowledge, understanding, and experiences which are required to become an effective junior officer in the modern air force. The student learns about the wide range of USAF career specialties and has an opportunity to request duty in those fields where qualified. Students contracted into the POC and federal scholarship recipients receive federal funds plus they receive a \$150 per month subsistence allowance during the school year.

Freshman and sophomore students enrolled in the four-year program are eligible to compete for full scholarships for their remaining years at the University. In addition to full tuition and fees, the scholarship provides a monthly tax-free subsistence allowance. Also, two-year AFROTC scholarships and State of Illinois tuition waivers are available on a competitive basis.

In addition to the courses offered for academic credit, Aerospace Studies sponsors related extracurricular activities. The Aerospace Club is open to all members of the student body. The Arnold Air Society, a national honorary service organization, is open to selected AFROTC cadets. The Saluki AFROTC Drill Team is open to selected AFROTC cadets on a competitive basis. Members participate in local community events and in selected drill competition meets throughout the region.

Aerospace Studies is a voluntary course sequence leading to a commission as an officer in the United States Air Force. When commissioned, all officers must have at least a baccalaureate degree; hence completion of the program is contingent upon maintaining satisfactory progress toward graduation. Enrollment in the first two years (general military course) is unrestricted, and no military obligation is incurred. Special students who do not intend to obtain a commission are welcome.

Acceptance into the last two years (professional officer course — POC level) is competitive and requires qualification on the Air Force Officer Qualifying Test and a physical examination. For some officer candidates, the field of concentration must be related to an officer career specialty in the Air Force. Students in the professional officer courses do incur a military obligation. They are paid a monthly tax-free subsistence allowance. Graduate students and those pursuing a second bachelor degree who have at least two years remaining at the University, not counting summers, are eligible.

Qualified students may enter directly at the POC level without completing the general military courses by attending a five-week field training course during the summer prior to entrance. Four-year students attend a four-week field training course. Field training is conducted at Air Force bases and students are paid while attending.

Leadership laboratory is a supervised laboratory taken concurrently with the aerospace studies courses. In the first two years, students develop leadership potential by participating in practical leadership situations, participating in and leading drill and ceremonies, learning customs and courtesies, and preparing for field training. In the final two years of AFROTC, students develop leadership potential by assuming command and staff responsibilities, supervising the GMC cadets, and implementing the goals and objectives of the leadership laboratory.

Further information may be obtained from the Department of Aerospace Studies (Air Force ROTC), 807 South University Avenue, Carbondale, Illinois 62901, campus Mailcode 6718 or phone (618) 453-2481, or on the Web at: <www.siu.edu/~afrotc/>.

Minor

A minor in aerospace studies is structured to broaden the background of non-career Air Force Officers so they may learn more about the military, its role in society, its history and its officers. It is hoped that with a minor in Aerospace Studies, the civilian leaders of tomorrow will have a better understanding and appreciation of the vital role that the military plays in today's world. AFROTC cadets are also welcome to declare aerospace studies as a minor.

For non-AFROTC cadets, a minor in aerospace studies consists of a minimum of 16 semester hours, including AS 101, 102, 201, 202 (one semester hour each), 301, 302, 401 and 402 (three semester hours each).

For AFROTC cadets who have been accepted into the General Military Corps (GMC) and or the Professional Officer Corps (POC), an aerospace studies minor also consists of a least 16 hours, including AS 258 (Field Training) for four semester hours, in addition to AS 301, 302, 401 and 402 (3 semester hours each). Cadets may also wish

to take additional hours in Aerospace Leadership Laboratories (LLAB): AS 101a, 102a, 201a, 202a, 301a, 302a, 401a and 402a (one semester hour each).

Declaration and or acceptance of Aerospace Studies as a minor does not constitute acceptance into the General Military Corps, Professional Officer Corps, or any other association with AFROTC. A student who is not an AFROTC cadet who wishes to work toward a minor by attending Aerospace Studies courses will be listed within the AFROTC detachment as a special student. He or she will not be required to attend any other AFROTC functions or classes, nor will the student be considered for any AFROTC scholarships or privileges.

Courses (AS)

101-1 The Air Force Today. Survey course briefly treating chief topics relating to the Air Force and defense. It focuses on the organizational structure and missions of Air Force organizations, officership and professionalism and includes an introduction to communicative skills. Prerequisite: concurrent enrollment in 101a, Leadership Laboratory.

101A-1 Leadership Laboratory. Weekly laboratory consisting of Air Force customs and courtesies, health and physical fitness, and drill and ceremonies. Prerequisite: concurrent enrollment in 101.

102-1 The Air Force Today. Survey course briefly treating chief topics relating to the Air Force and defense. Focuses on the organizational structure and missions of Air Force organizations, officership and professionalism and includes an introduction to communicative skills. Prerequisite: concurrent enrollment in 102a, Leadership Laboratory.

102A-1 Leadership Laboratory. Weekly laboratory consisting of Air Force customs and courtesies, health and physical fitness, and drill and ceremonies. Prerequisite: concurrent enrollment in 102.

201-1 The Air Force Way. Focuses on factors contributing to the development of air power from its earliest beginnings through two world wars; the evolution of air power concepts and doctrine and an assessment of communicative skills. Prerequisite: concurrent enrollment in 201a, Leadership Laboratory.

201A-1 Leadership Laboratory. Weekly laboratory consisting of Air Force customs and courtesies, health and physical fitness and field training orientation. Prerequisite: concurrent enrollment in 201.

202-1 The Air Force Way. Focuses on factors contributing to the development of air power from its earliest beginnings through two world wars; the evolution of air power concepts and doctrine and an assessment of communicative skills. Prerequisite: concurrent enrollment in 202a, Leadership Laboratory.

202A-1 Leadership Laboratory. Weekly laboratory consisting of Air Force customs and courtesies, health and physical fitness and field training orientation. Prerequisite: concurrent enrollment in 202.

258-4 Field Training Equivalency. Work experience credit for 101, 102, 201, and 202. This credit will be evaluated by the Department of Aerospace Studies. Pass/Fail only. Prerequisite: satisfactory completion of either the four-week or six-week field training course for AFROTC POC applicants.

301-3 Air Force Leadership and Management. Study of leadership and quality management fundamentals, professional knowledge, leadership ethics and communicative skills required of an Air Force junior officer. Case studies are used to examine Air Force leadership and management situations as a means of demonstrating and exercising practical application of the concepts being studied. Prerequisite: concurrent enrollment in 301a, Leadership Laboratory. Non-AFROTC members may enroll with instructor consent.

301A-1 Leadership Laboratory. Weekly laboratory consisting of advanced leadership experiences in officer-type activities, giving students the opportunity to apply the principles learned. Prerequisite: concurrent enrollment in 301.

302-3 Air Force Leadership and Management. Study of leadership and quality management fundamentals, professional knowledge, leadership ethics and communicative skills required of an Air Force junior officer. Case studies are used to examine Air Force leadership and management situations as a means of concepts being studied. Prerequisite: concurrent enrollment in 302a, Leadership Laboratory. Non-AFROTC members may enroll with consent of instructor.

302A-1 Leadership Laboratory. Weekly laboratory consisting of advanced leadership skills in officer-type activities, giving students the opportunity to apply leadership and management principles. Prerequisite: concurrent enrollment in 302.

351-2 Field Work Experience. Approved field work experiences with an Air Force or Department of Defense-related installation gives students opportunities to apply classroom theory to an active duty environment. Prerequisite: 302 or consent of department chair.

401-3 Preparation for Active Duty. Examines the need for national security, analyzes the evolution and formulation of the American Defense policy, strategy and joint doctrine; investigates the methods for managing conflict; overviews regional security, arms control and terrorism. Within the structure, continued emphasis is given to the refinement of communicative skills. Not for graduate credit. Prerequisite: concurrent enrollment in 401a, Leadership Laboratory. Non-AFROTC members may enroll with consent of instructor.

401A-1 Leadership Laboratory. Weekly laboratory consisting of advanced leadership experiences in officer-type activities. Not for graduate credit. Prerequisite: concurrent enrollment in 401.

402-3 Preparation for Active Duty. Examines the military as a profession, officership, the military justice system and current issues affecting military professionalism. Within this structure, continued emphasis is given to the refinement of communicative skills. Not for graduate credit. Prerequisite: concurrent enrollment in 402A, Leadership Laboratory. Non-AFROTC members may enroll with consent of instructor.

402A-1 Leadership Laboratory. Weekly laboratory consisting of advanced leadership experiences in officer-type activities. Not for graduate credit. Prerequisite: concurrent enrollment in 402.

471-1 to 3 Independent Study. Supervised study or project to improve skills or to explore interests related to professional development of an Air Force officer. Not for graduate credit. Pass/Fail only. Prerequisite: 301 or concurrent enrollment or consent of department chair.

491-1 to 8 Advanced Leadership Skills. Student applies special skills or interests to the professional environment of an Air Force officer. Original research or project to deal with current aspect of Air Force duty required. Amount of credit dependent on work involved. Not for graduate credit. Pass/Fail only. Aerospace Studies elective only. Prerequisite: 301 or concurrent enrollment and consent of department chair.

Aerospace Studies Faculty

Burkhart, Joseph I., Adjunct Instructor.

Dunn, Michael J., Adjunct Assistant Professor, M.A.S., University of Montana, 1995.

Greenfield, Robyn R., M.A., Webster University 1997.

Magnuson, Larry D., Adjunct Professor, M.S., Pacific Lutheran University, 1979.

Shelton, Theodore F., Adjunct Assistant Professor, M.S., Troy State University, 1993.

Teague, William., Adjunct Instructor.

African Studies (Minor)

An African Studies minor is available with the College of Liberal Arts. African studies is an interdisciplinary minor, involving courses in anthropology, Black American studies, geography, history, linguistics and political science. Each of these departments has one or more faculty who specialize in Africa and who are interested in assisting students wanting to study about Africa. The requirements for the African studies minor are listed below.

Minor

The African studies minor consists of 15 hours with 9 hours in required core courses and 6 hours of electives.

Required Core Courses: 9 hours selected from Anthropology 470a, Black American Studies 225, 314a,b, History 387a,b, Political Science 465.

Electives: 6 hours selected from any courses not used as part of the core or Geography 365, Linguistics 450-3 (only when African languages are studied), or 2-3 hours of reading courses on Africa sponsored by any of the departments listed above or below.

Related courses which do *not* count toward the minor are: Anthropology 410h, 470f, Black American Studies 311a,b, Economics 322, History 362a,b, or Political Science 452.

Aging Studies (Minor)

An Aging Studies minor is available in the College of Liberal Arts. The minor is designed for the student with career interests in the field of gerontology and for students who wish to add an understanding of aging to their knowledge. The curriculum provides an interdisciplinary approach to understanding the aging process, basic issues related to aging and the aged, and an opportunity to acquire greater knowledge of gerontological theory and research. A component of the minor is a practicum that will assist the student in developing skills for working with and on behalf of older persons. The minor is structured to complement a major or individual courses in disciplines such as psychology, sociology, social work, recreation, health education, and rehabilitation.

The minor in aging studies consists of a minimum of eighteen semester hours which includes nine hours of core courses consisting of Psychology 304, Sociology 465 and Rehabilitation 447; six hours of approved electives to be selected from Communication Disorders and Sciences 438, Health Education 402, Health Education 440,

Recreation 440c, Rehabilitation 405, Rehabilitation 446, Social Work 463 and Social Work 466; and three hours of practicum. The practicum, which may be oriented either toward research or care giving, requires that the student work in an environment that involves direct contact with older people including, but not restricted to, senior centers and nursing homes. Time in the field should be approximately twelve hours per week for a semester. Terms of supervision will be consistent with practices in the student's major area of study if that area of study requires a practicum. Where the student's major area has no practicum program, the aging studies coordinator can assist the student in meeting this requirement.

The student should check with the coordinator of the aging studies minor or their academic adviser as early as possible in order to plan an orderly progression of study.

Agribusiness Economics (Department, Major, Courses)

The need to better utilize our natural resources and protect our environment, improve our rural infrastructure, and manage the activities of food production, processing, and distribution firms in an international setting is creating career opportunities at a quickening pace. Agribusiness economics offers a flexible program which, under the supervision of a faculty adviser, allows the student to pursue either a comprehensive or more specialized course of study in preparation to assume an effective professional role in our dynamic, global, economic, and social environment.

Courses in agribusiness economics in the traditional areas of farm management and marketing emphasize accepted techniques to improve efficiency and farm profitability. Course offerings in agribusiness management, finance, sales, marketing, and commodity futures prepare students to assume positions with a broad range of businesses that comprise the agribusiness sector. Course offerings in environmental resource management, rural development, food policy and agricultural law introduce the needed applied economic skills for effective decision making and complement a more specialized course of study.

Within the Agribusiness Economics major there are two options. Both options emphasize a foundation of courses to equip students with professional skills in applied economics and management necessary for solving problems and communication skills necessary for positions of leadership. The agricultural resource management option provides the opportunity to combine the student's training in agribusiness economics with further knowledge about the technical aspects of agriculture and natural resources. This is achieved by developing a concentration of courses from the other units in the College of Agriculture, or by obtaining a minor in Animal Science, Food and Nutrition or Plant and Soil Science. This option may appeal to students with an interest in conservation, natural resource management, production agriculture and the industries closely linked to production agriculture. The applied economics and agribusiness option provides the opportunity to combine the student's training in agribusiness economics with knowledge of business, economics or other related disciplines. This is achieved by developing a concentration of courses from business, economics or other social sciences or by obtaining a minor in one of these disciplines. This option may appeal to a student with an interest in business management, banking and finance, marketing, trade, environmental policy, and rural development. Students planning to pursue an advanced degree in Agribusiness Economics at SIUC or other universities are encouraged to complement either option with additional courses in mathematics, economics, and statistics. For a number of courses taught in the department, there will be an additional charge for field trips, laboratory manuals or supplies.

Bachelor of Science Degree, College of Agriculture

AGRIBUSINESS ECONOMICS MAJOR – AGRICULTURAL RESOURCE MANAGEMENT OPTION

<i>University Core Curriculum Requirements</i>	41 ¹
Plant Biology 115 or 117 or 200 or Zoology 118	
Mathematics 110 or 113	
<i>Requirements for Major in Agribusiness Economics</i>	79
Chemistry 140a and 140b or equivalent	(3) +5 ^{1,2}
Courses in Agribusiness Economics	28
Agribusiness Economics 204 ¹ , 318, 350 or 360, 351, 362, 381-1, 450 or 461	(3)+16 ^{1,2}
Other Agribusiness Economics including 6 hours of 400 level courses	12
Courses in Business, Economics, and Quantitative Methods	9
Accounting 220	3
Agricultural Education and Mechanization 318 or 418	3
Economics 241	3
Courses in Communication	6
Speech Communication 221, English 291 or Agricultural Education and Mechanization 314 or communication equivalent 200 level or above	6
Electives	31
Agriculture, Forestry, and related disciplines, excluding Agribusiness Economics	15
Total	120

AGRIBUSINESS ECONOMICS MAJOR – APPLIED ECONOMICS AND AGRIBUSINESS OPTION

<i>University Core Curriculum Requirements</i>	41 ¹
Plant Biology 115 or equivalent, Mathematics 110 or 113 (Mathematics 108 or 139 recommended as a substitute.)	
<i>Requirements for Major in Agribusiness Economics</i>	79
Chemistry 140a	(3) + 1 ^{1,2}
Courses in Agribusiness Economics	28
Agribusiness Economics 204, 318, 350 or 360, 351, 362, 381-1, and 450 or 461	(3)+16 ^{1,2}
Other Agribusiness Economics including 6 hours of 400 level courses	12
Courses in Business, Economics, and Quantitative Methods	15
Accounting 220 and 230	6
Agricultural Education and Mechanization 318 or 418	3
Economics 240, 241 or 340, 341	6
Courses in Communication	6
Speech Communication 221, English 291, or Agricultural Education and Mechanization 314, or communication equivalent 200 level or above	6
Electives	29
Agriculture and Forestry electives excluding Agribusiness Economics	6
Business, Economics and related disciplines	9
Total	120

¹Agribusiness Economics 204 substitutes for Economics 113 and Chemistry 140a-3 substitutes for Chemistry 106.
²Courses in parenthesis are required in the major, but do not add to the hours in the major. They substitute for hours in the University Core Curriculum.

Agriculture Resource Management Option Suggested Curricular Guide

FIRST YEAR		FALL	SPRING	SECOND YEAR		FALL	SPRING
Chem 140a,b ¹		4	4	Select (Social Science) ²		3	-
PLB 115		-	3	Select (Humanities) ²		3	3
Select (Fine Arts) ²		-	3	SPCM 101		3	-
ENGL 101,102		3	3	SPCM 221		-	3
Select (Human Health) ²		2	-	ACCT 220		-	3
ABE 204 ³		3	-	ECON 241		3	-
AG Elective		3	-	GNAG 318		-	3
MATH 108		-	3	Select (Multi/Interdiscipl)		3	3
Total		15	16	Total		15	15
THIRD YEAR		FALL	SPRING	FOURTH YEAR		FALL	SPRING
ABE 350 or 360 ⁶		3	3	ABE 450 or 461 ⁷		3	3
ABE 351		3	-	ABE 381		-	1
ABE 318		3	-	ABE (Select 400 Level)		3	3
ENGL 291 or GNAG 314		3	-	ABE (Select 300 or 400 Level)		3	3
Select (ABE or AG Elective)		3	9	Electives		6	6
ABE 362		-	3				
Total		15	15	Total		15	16

Applied Economics and Agribusiness Option Suggested Curricular Guide

FIRST YEAR		FALL	SPRING	SECOND YEAR		FALL	SPRING
Chem 140a ¹		4	-	Select (Humanities) ²		3	3
PLB 115		-	3	SPCM 101		3	-
Select (Fine Arts) ²		-	3	SPCM 221		-	3
ENGL 101,102		3	3	ACCT 220		-	3
Select (Human Health) ²		2	-	ECON 240,241		3	3
ABE 204 ³		3	-	GNAG 318		3	-
AG Elective		3	-	Select (Multi/Interdiscipl)		3	3
Social Science Elective		-	3				
MATH 108 or 139		-	3				
Total		15	15	Total		15	15
THIRD YEAR		FALL	SPRING	FOURTH YEAR		FALL	SPRING
ABE 350 or 360 ⁶		3	3	ABE 450 or 461 ⁷		3	3
ABE 351		3	-	ABE 381		-	1
ABE 318		3	-	ABE (Select 400 Level)		3	3
ENGL 291 or GNAG 314		3	-	Select (BUS or ECON Elect)		3	3
ACCT 230		3	-	Electives		6	6
ABE 362		-	3				
Select (BUS or ECON)		-	6				
AG Elective		-	3				
Total		15	15	Total		15	16

¹ Chemistry 140b is required in addition to 140a for ARM option.² See University Core Curriculum.³ Fulfills a University Core Curriculum social science requirement.⁴ Mathematics 108 or 139 recommended for the AEA option.⁵ Only Economics 241 macroeconomics is required for ARM option.⁶ Students required to take ABE 350 (fall) or ABE 350 or 360 takes on ABE elective or other economics or business courses, or Agriculture elective.⁷ Students required to take ABE 450 (fall) or ABE 461 (spring). In the semester the student does not have ABE 450 or 461 takes on ABE elective or other economics or business courses, or Agriculture elective.**Third and Fourth Years**

The last two years of the agricultural economics/agribusiness curriculum are devoted to advanced courses in agricultural economics, agribusiness, economics and business, to meet the particular objectives of students. About 20 hours of free electives are included in the last two years of this curriculum. Generally, students complete a minor in another related field; e.g., plant and soil science, animal science, environmental studies, economics, or accounting.

Minor

A minor in agribusiness economics is offered. A minor consists of 15 semester hours of credit. Normally 12 hours must be taken at Southern Illinois University Carbon-dale. An adviser within the department must be consulted before selecting this field as a minor.

Courses (ABE)

204-3 Introduction to Agricultural Economics. [IAI Course: AG 901] Agriculture in local and national economy; distribution; size and organization of the farm business units; policies affecting agriculture.

257-1 to 10 Work Experience. Credit for on-campus work experience through a cooperative program developed between the department and the Office of Student Work and Financial Assistance. Prerequisite: consent of chair. Mandatory Pass/Fail.

258-1 to 30 Past Work Experience. Credit for career related employment based on the evaluation of the documentation of this experience by the Department of Agribusiness Economics. No grade for past work experience. Prerequisite: consent of chair.

302-2 Country Living Management and Information. Managing a small acreage as an avocation. Types of decision problems and sources of information.

318-3 Agribusiness Statistical Methods. Statistical methods applied to agribusiness economics, including survey design, sampling, graphic presentation of data, index numbers, statistical inference, basic linear regression and correlation.

333-3 Professional Agri-selling. Focuses on professional Agri-selling and the sales process. Topics include different methods of selling, steps and techniques in the selling process, customer service, sales ethics, consumer behavior concepts and sales management. Critical skills of self-management, communication, and interpersonal values are examined. Opportunities of a career in Agri-selling are surveyed.

340-3 Food and Agricultural Policy. An economic analysis of the structure, problems, and alternative public policies of the food production industry. Emphasis on price, income, foreign trade, and development policies. Prerequisite: 204 or consent of instructor.

350-3 Farm Management. Efficient organization and management of a farming operation. Emphasis on crop and livestock selection, management of farm resources, farm budgets and records analysis, and farm leases. Student will incur field trip expenses not to exceed \$5. Prerequisite: 204 or one course in economics.

351-3 Financial Management in Agriculture. Analysis of the capital structure of agriculture and sources of capital. Credit analysis of agribusiness firms using financial statements, firm growth, capital budgeting, and tax considerations. Prerequisite: 204 or equivalent.

359-1 to 6 Intern Program. Supervised work experience program in either an agricultural agency of the government or agribusiness. Prerequisite: junior standing or consent of instructor. Mandatory Pass/Fail.

360-3 Cooperatives and Agribusiness Management. Problems and practices in agribusiness operations including forms of organization, alternative organization and structure impacts on decision making, tools of decision making, financial analysis and methods of improving the effectiveness of the marketing system. Prerequisite: 204 or equivalent.

361-3 Agribusiness Marketing Management. An overview of marketing practices and strategies employed by agribusiness product and service firms. Market research, market segmentation and product mix development are among the topics reviewed. Students participate in case analysis and marketing plan development projects. Prerequisite: 204 or equivalent.

362-3 Marketing and Pricing Agricultural Products. Institutional arrangements in marketing agricultural products. Market structure, marketing costs, and alternative methods of pricing agricultural products are also examined. Prerequisite: 204 or equivalent.

363-3 Commodity Futures Market. The mechanics of futures market trading, a description of institutions, technical and fundamental analysis, speculation, hedging, spreading, and market risk. Agricultural commodities, exchange rates, and financial instruments are considered.

381-1 to 4 (1,1,1,1) Agricultural Seminar. Discussion of special topics and/or problems in the field of agribusiness economics. Prerequisite: junior standing and consent of department.

388-1 to 16 (1 to 8 per semester) International Studies. Course work undertaken as a part of an approved University residential study program abroad. May be taken for a maximum of eight semester hours per semester and may be repeated for a maximum of 16 semester hours. Prerequisite: major department or program approval.

390-1 to 4 Special Studies in Agribusiness Economics. Assignments involving research and individual problems. Field trips. Prerequisite: consent of chair.

391-1 to 4 Honors in Agribusiness Economics. Completion of honors paper or comparable project under the supervision of one or more faculty members. Subject matter depends upon the needs and interests of the student. Prerequisite: junior, gpa 3.0 with a 3.25 in major; approval of staff member, department chair.

401-3 Agricultural Law. Relations of common-law principles and statutory law to land tenure, farm tenancy, farm labor, farm management, taxation, and other problems involving agriculture. Prerequisite: junior standing or consent of instructor.

402-1 to 6 Problems in Agribusiness Economics. Designed to improve the techniques of agribusiness economics workers through discussion, assignment, and special workshops on problems related to their field. Emphasis will be placed on new innovative and currently developed techniques for the field. Prerequisite: consent of chair.

419-3 Agribusiness Economic Applications of Information Technology. Students will gain experience in applying information technology to a range of agribusiness-economic applications in the subject areas of record keeping, management, finance and marketing. Students will gain additional experience by integrating these applications in the development of a business plan. Not for graduate credit. Prerequisite: 350 or 351 or 360 and General Agriculture 318 or equivalent.

440-3 Land Resource Economics. The use of land as an economic variable in production of goods and serv-

ices; land markets; public versus private land use conflicts; and land-use planning in an institutional setting. Prerequisite: 12 hours of agricultural economics or economics credit, or graduate status or consent of instructor.

444-3 Agricultural Development. Analysis of the economic, social, political, cultural, and institutional factors related to economic growth and development in agricultural sector. Framework for evaluating outcome of alternative strategies in agricultural production, marketing, and government policies that affect output, income distribution, and resource use in agriculture and the related agroindustrial complex. Prerequisite: 204.

450-3 Advanced Farm Management. Application of production economic principles and modern decision-making techniques to farm management problems. The importance of information, sources of agricultural risk and management of risk in farm planning will be integrated. Prerequisite: 350 or equivalent and University Core Curriculum mathematics required.

451-2 Farm Real Estate Appraisal. Principles and practices of farm real estate appraisal. Application of capitalization, market, and cost approaches for estimating market value. Understanding of special valuation methods used for buildings, insurance, assessments, loans, and condemnation. Field trips not to exceed \$10. Prerequisite: 350 or consent of instructor.

453-3 Agribusiness Planning Techniques. Application of mathematical programming to agribusiness and farm planning, including enterprise selection, resource allocation, least cost ration formulation, decision making under risk and uncertainty, transportation and location problems. Emphasis placed on modeling problems and interpretation of results. Prerequisite: junior standing or consent of instructor.

460-3 Agricultural Prices. Measurement and interpretation of factors affecting agricultural prices. Construction of index numbers, trend analysis, seasonal and cyclical price movements and the measurement of relationships between price and other variables. Prerequisite: 362 or equivalent.

461-3 Agriculture Business Management. Examination of agribusiness firm management with emphasis on the management and control of financial resources and the interrelationship between the agribusiness firm and human resource management. Other topics in agribusiness will include effective communication in the management process, business ethics, and workable credit programs for customers. Prerequisite: 351 and 360 or equivalent.

462-3 Advanced Agricultural Marketing. Advanced treatment of marketing issues from both theoretical and practical decision-making perspectives. Marketing margins, intertemporal, and spatial price relationships are reviewed in detail. Historical and current grain and livestock price series are utilized in decision-making exercises. Prerequisite: 362 or equivalent.

470-3 Interdisciplinary Approaches to Environmental Issues. Application of concepts from the biological, physical and social sciences, economics, humanities and law, used to understand the interdisciplinary complexities of environmental issues. Students will develop and demonstrate problem-solving skills as part of a team analyzing a regional environmental issue. Team-taught seminar style discussions. Not for graduate credit. Prerequisite: Plant Biology 301i and admission to Environmental Studies minor program.

Agribusiness Economics Faculty

Beaulieu, Jeffrey, Associate Professor, Ph.D., Iowa State University, 1984.

Beck, Roger, Associate Professor, Ph.D., Pennsylvania State University, 1977.

Eberle, Phillip, Associate Professor, Ph.D., Iowa State University, 1983.

Harris, Kim, Associate Professor, Ph.D., University of Illinois, 1985.

Herr, William McD., Professor, *Emeritus*, Ph.D., Cornell University, 1954.

Keeper, Wendell E., Professor, *Emeritus*, Ph.D., Cornell University, 1938.

Kraft, Steven E., Professor and *Chair*, Ph.D., Cornell University, 1980.

Rendleman, C. Matthew, Assistant Professor, Ph.D., Purdue University, 1989.

Solverson, Lyle, Associate Professor, Ph.D., University of Wisconsin, 1967.

Wills, Walter J., Professor, *Emeritus*, Ph.D., University of Illinois, 1952.

Agriculture (College, Courses)

Courses (AGRI)

110-3 Agriculture and Society. An introductory and general inquiry about the role and characteristics of farm and off-farm agriculture in our non-agrarian society. To acquaint students with important aspects of the various fields of agriculture and agrarian relationships to our society.

259-2 to 40 Technology in Agriculture. For credit earned in technical or occupational proficiency above the high school level (by departmental evaluation).

300I-3 Social Perspectives on Environmental Issues. (Same as Liberal Arts 300i.) (University Core Curriculum) Case studies (e.g., rural village in developing nation; small town in the U.S.; city in developing nation) are used to learn how different societies and groups deal with their specific environmental issues, and how culture and economic factors affect their perspectives and actions.

323-2 Career Development in Agriculture. Explores the information necessary for a participant to enter into an agricultural career with government, business or industry. Participants will complete a personal skills assessment, a resume, research a prospective employer, complete a mock interview and negotiate employment.

333-2 Agriculture and Forestry Environmental Problems. An overview course directed at the environmental

problems of food, fiber, and forest products, production and processing and their potential solutions. A team taught course within the College of Agriculture.

388-1 to 16 (1 to 8 per semester) International Studies in Agriculture. Course work undertaken as a part of an approved University residential study program abroad. May be taken for a maximum of eight semester hours per semester and may be repeated for a maximum of 16 semester hours. Prerequisite: College of Agriculture or department within the college approval.

401-3 Fundamentals of Environmental Education. (Same as Forestry 401 and Recreation 401.) A survey course designed to help education majors develop an understanding of environmental problems and an awareness of how these types of problems can be handled both inside and outside the classroom. Prerequisite: ten hours of biological science, or ten hours of recreation and/or education, or consent of instructor.

423-3 Environmental Interpretation. (Same as Forestry 423 and Recreation 423.) Principles and techniques of natural and cultural interpretation. Two hours lecture, three hours laboratory. Approximately \$10 cost for field trips. Prerequisite: ten hours biological science or ten hours of recreation.

450-2 Farming Systems Research and Development. An introduction to farming systems, which is an interdisciplinary approach to agricultural research and development emphasizing small farms. The whole farm is viewed as a system of interdependent components controlled by the farm household. Focuses on analyzing interactions of these components as well as the physical, biological, and socioeconomic factors not controlled by the household. Techniques of analysis are applicable domestically and internationally.

481-1 International Agricultural Seminar. Discussion of special topics relating to worldwide agricultural development. Prerequisite: consent of instructor.

Agriculture, General (Major)

(SEE GENERAL AGRICULTURE)

Allied Health Careers (Courses)

Courses (AHC)

124-2 Disease Conditions. Introduction to the study of diseases and disorders of the various body systems. The disease processes as they relate to bodily functions, their signs, symptoms, and treatment will be covered within the scope of medical assisting. Prerequisite: 105.

161-2 Infection Control. It is the responsibility of all health care workers to prevent and to help control infection. This course introduces infection control practices that are important in the prevention and spread of disease. This course will assist the successful student in the development of knowledge needed to provide quality care for patients and to protect yourself from the spread of infection. Prerequisite: anatomy and physiology.

299-1 to 16 Individual Study. Provides students with the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment provides access to the resources of facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Prerequisite: approval of the sponsor, program supervisor, and division chair is required.

300-1 to 3 Seminar in Allied Health. A topical seminar conducted by staff members or distinguished guest lecturers on pertinent areas of allied health. Prerequisite: consent of instructor and department.

319-1 to 15 Occupational Internship. Each student will be assigned to a University approved organization engaged in activities related to the student's academic program and career objectives. The student will perform duties and services as assigned by the preceptor and coordinator. Reports and assignments are required to be completed by the student. Hours and credits to be individually arranged. Mandatory Pass/Fail.

350-1 to 32 Technical Career Subjects. In-depth competency and skill development and exploration of innovative techniques and procedures used in business, industry, professions, and health service occupations offered through various workshops, special short courses, and seminars. Hours and credits to be individually arranged. This course may be classified as independent study. Prerequisite: consent of instructor.

375-3 Advanced Modalities: Diagnostic, Therapeutic and Prosthetic. A course designed to provide the student with a study of advanced instrumentation and techniques involved with the Allied Health Sciences. Topics will include an introduction to the modality, theoretical and physical principles, and hands-on instruction of each instrument/technique. Prerequisite: junior standing or licensure/certification.

Animal Science (Major, Courses)

The animal science program is a part of the Department of Animal Science, Food and Nutrition. SIUC's internationally known animal science faculty is dedicated to teaching and to student development. Animal Science teachers at SIUC represent the range of topics in animal agriculture. There are specialists in animal genetics, reproductive physiology, nutrition and management for each of the species, international food programs, and veterinary medicine. The animal science teachers bring their

exciting experience with them into every class they teach. The combination of the visionary and the practical makes a strong and vital faculty for students who want the best professional education they can get.

The department offers three specializations leading to a B.S. degree: production, equine science, and science and pre-veterinary medicine. The latter allows qualified students to transfer to accredited colleges of veterinary medicine prior to receiving the Bachelor of Science degree in Animal Science.

Most of the students' agriculture courses for the major will be in animal science, but students can also select courses from agronomy, horticulture, forestry, agricultural education, microcomputers in agriculture, agricultural mechanization, agribusiness and economics, and farm management. Other classes help the student meet basic University requirements in a way that will strengthen their abilities to think, understand, and communicate about the social, physical and natural sciences important to animal scientists. Other departments offer supplemental coursework in physiology, genetics, nutrition, animal behavior, and other topics that many animal science students find valuable.

The animal science major is backed up with extensive facilities for several species of livestock, and every student has the opportunity to get involved in work, research, or observation at the University Farm. The core of our animal science program is the 2,000 acre farm system, which includes special centers for beef, dairy, horses, and swine.

Hundreds of distinct occupations exist within the animal agriculture field. There are opportunities in animal production work at farm operations, ranches, feedlots, stables and zoos. There are opportunities in feed and meat-packing industries, equipment suppliers, government and international agencies, veterinary medicine, and numerous other supporting industries that serve producers. Within each of these areas, animal science graduates are employed in such jobs as sales, service, education, communication, finance and business management.

There may be extra expenses for field trips, manuals or supplies in some courses.

Bachelor of Science Degree, College of Agriculture

<i>University Core Curriculum Requirements</i>	41
Science: See requirements of the specialization	
Mathematics: See requirements of the specialization	
<i>Requirements for Major in Animal Science</i>	79
Core Requirements	35
Animal Science 121, 122, 215, 315, 331, 332, 381, 431, plus	
one course from 409, 430, 465, or 485	25
Agribusiness Economics 204	(3) ¹
Agriculture electives, excluding Animal Science	5
Microbiology 201 or 301	4
Physiology 208	1
Specialization Requirements	44
Fulfill the requirements of one of the following specializations:	
<i>Total</i>	120

PRODUCTION SPECIALIZATION

Substitute Chemistry 140a,b for Chemistry 106	(3) ¹ + 5
Substitute Zoology 118 or Plant Biology 200 for Zoology 115	(3) ¹ + 1
Animal Science 210, 415 one additional course from Animal Science	
409, 430, 465 or 485; and 5 elective credits from 300 or 400 level	
Animal Science course	16
Agribusiness Economics 350	3
Electives	19
<i>Total</i>	44

EQUINE SCIENCE SPECIALIZATION	
Substitute Chemistry 140a,b for Chemistry 106	(3) ¹ + 5
Substitute Zoology 118 or Plant Biology 200 for Zoology 115	(3) ¹ + 1
Agribusiness Economics 350	3
Animal Science 209, 219, 409, 419, 490 and a minimum of 4 credit hours in 112, 212, 312 or 412	23-27
Electives	8-12
Total	44

SCIENCE AND PRE-VETERINARY SPECIALIZATION	
Substitute Chemistry 200 for Chemistry 106	(3) ¹
Substitute Zoology 118 for Zoology 115	(3) ¹ + 1
Plant Biology 200	4
Chemistry 201, 210, 211, 340, 341, 350.....	14
Physics 203a,b and 253a,b	8
Mathematics 108 and 109	(3) ¹ + 3
Animal Science electives including one additional 300 or 400-level course	7
Electives	7
Total	44

¹The numbers in parenthesis are counted as part of the 41 hour University Core Curriculum requirements.

Minor in Animal Science

The minor in animal science requires 16 semester hours, of which at least 12 must be earned at Southern Illinois University Carbondale. An adviser within the department must be consulted before selecting this field as a minor.

Minor in Equine Studies

The minor in equine studies may be earned by any student not enrolled in the Animal Science major. It requires a minimum of 17 semester hours, of which at least 12 must be earned at Southern Illinois University Carbondale. Courses required are Animal Science 209, 219, 215 or 315, 331 and 409. The minor in Equine Studies is not awarded to students who have a major in Animal Science.

Courses (ANS)

- 112-2 to 16 (2 per semester) Introduction to Riding.** For students with little or no riding experience. A combination of mounted and classroom work will introduce the rider to safe and responsible riding practices. Students will gain an understanding for the natural function of the horse under saddle and the influence of rider position and aids on horse and rider safety and comfort. Riding emphasis will involve work on basic position and aids. Classroom work will cover safety procedures, before and after riding care, and care and use of tack. Facilities/riding expenses are \$200-\$250 per class. Prerequisite: no prior riding experience required. Consent of instructor.
- 121-3 Introduction to Animal Science.** [IAI Course: L1 902, AG 902] A general overview of dairy, meat animals (swine, beef, sheep), poultry, and horse industries with emphasis on how meat, milk, and poultry products are produced and distributed. The general application of genetic, physiologic, and nutrition principles for the improvement of animal production to further serve people.
- 122-1 Livestock Production Laboratory.** [IAI Course: AG 902] Livestock facilities, demonstration of management practices of animals for human use and the processing of animal products.
- 123-1 to 8 (1 to 2 per discipline) Livestock Practicum.** (a) Beef; (b) Dairy; (c) Horse; (d) Swine. Provides students with limited previous livestock experience an opportunity to participate in the routine care and management procedures at one of the University's livestock centers.
- 209-3 Equine Form and Function.** This course explores the conformation and functional anatomy of the athletic horse, particularly as it relates to locomotion. Gaits and movement will be studied. Methods to influence movement will be considered and how these impact athletic ability or potential.
- 210-3 Livestock Products and Processing.** Composition and quality of meat and dairy products. Nomenclature, identification, and current processing methods of meat and dairy products will be presented. Laboratory exercises complement lecture material.

212-2 Riding and Position Control. Through the combination of mounted and classroom work, students will learn theory and implementation of the six rein aids and three leg aids used in riding. Students will be introduced to the principles and use of basic training aids. Mounted work will center on obtaining an independent seat and mastery of intermediate aids. Riders will begin to deal effectively with the common challenges that can arise during riding. Classroom work will cover gait recognition and control, principles and use of tack, and mechanical aids. Facilities/riding expenses are \$200-\$250 per class. Prerequisite: 112 and/or permission of instructor (tryouts required).

215-2 Introduction to Nutrition. (Same as Food and Nutrition 215.) An up-to-date study of basic principles of animal nutrition including classification of nutrients (physical and chemical properties) and their uses in order to provide the student a working knowledge of livestock nutrition in today's animal environment.

219-4 Introductory Horse Management. Designed for the beginning science student or non-science majors with an interest in horses. Information on topics related to horse selection and care coupled with laboratory experience provide essential information for the care of horses owned for pleasure.

250-3 Human Values in Livestock Production. Improvements in livestock production technology have resulted from research. These technologies contribute to the welfare of a growing population of humans. However, the application of new technologies often interact with a public perception of animals as exploited species in a manner conflicting with human values. These conflicts are discussed from a scientific and philosophical viewpoint.

312-2 to 16 (2 per semester) Riding Form and Function. Mounted and classroom work will explore principles and practices used to develop the competitive equine athlete. Advanced training aids will be presented and practiced. Goals of riding will be to develop an independent seat through knowledge of all aids, and to apply these to mounted problem solving in a variety of riding disciplines. Classroom work will emphasize the evaluation of equine form in determining ultimate athletic function and performance potential. Facilities/riding expenses are \$200-\$250 per class. Prerequisite: 212 and/or permission of instructor (tryouts required); concurrent or prior enrollment in 219 or equivalent.

315-3 Feeds and Feeding. Principles of applied animal nutrition. Ration formulation to meet specific nutrient needs of livestock. Feedstuff evaluation, including cost will be discussed. Prerequisite: University Core Curriculum mathematics.

319-2 to 4 (2, 2) Training and Fitting Yearling Horses. Students train and prepare yearling racehorses for sale at public auction. Students must complete both 319a and b in order to receive credit. Prerequisite: 219 and consent of instructor.

331-4 Physiology, Growth, and Development of Farm Animals. A comparative study of domestic animal function is presented using an organ system approach. How cell, tissue and organ structure is related to physiological function is emphasized. The mechanism of animal growth and development will be discussed. Prerequisite: course in biology.

332-3 Animal Breeding and Genetics. The application of basic principles of genetics and breeding systems to the improvement of farm animals and poultry. Prerequisite: 121 or biology.

337-3 Animal Health. Principles of prevention and control of infectious, nutritional and parasitic disease of farm animals. Prerequisite: a course in biology or physiology.

359-2 to 6 (2 to 3, 2 to 3) Intern Program. Work experience program in animal production units and agricultural agencies of the government or agribusiness. Prerequisite: junior standing and consent of chair. Mandatory Pass/Fail.

380-1 to 6 Field Studies in Foreign and Domestic Animal Agriculture. A travel course to observe and study the operation and management of farms, ranches, and feedlots as well as agribusiness firms supporting animal production such as food processors, feed manufacturers, and housing or equipment companies in either the United States or foreign countries. A written report is required. The travel fee charged to the student will depend on the nature and the length of the course.

381-1 Animal Science Seminar. Discussion of problems and recent development in animal science. Prerequisite: junior-senior standing.

390-1 to 4 Special Studies Animal Science. Assignment involving research and individual problems. Prerequisite: juniors and seniors only and consent of chair.

409-4 Equine Science. Designed for students interested in the more scientific aspects of equine physiology and management. The class will take a more advanced look at anatomy and physiology of the systems of the equine and consider how they relate to selection, use and management. Lecture and laboratory. Prerequisite: 219 and 331.

412-2 to 16 (2, 2 per discipline) Horsemastership. Designed to involve the advanced equestrian in evaluation and resolution of special problems in horse training involving one specific riding discipline: (a) Hunt seat, (b) Dressage, (c) Stock seat, (d) Saddle seat. Emphasis will be placed on the use of resistance-free training techniques. Not for graduate credit. Prerequisite: 312 or concurrent enrollment and permission of instructor. Special application. Facilities/riding expenses are \$200-\$250 per class.

415-4 Advanced Animal Nutrition. Advanced principles and practices associated with digestion, absorption, and metabolism of nutrients as related to domestic monogastrics, ruminants and horses. Prerequisite: 215 and 315.

419-4 Stable Management. Designed for the advanced equine science student planning a career in the horse field. Teaches in-depth management techniques on an applied basis. Students will have the opportunity to learn both theory and application of management in one course. One hour lecture, four hours laboratory. Laboratory fee: \$20. Prerequisite: 219, 409, and consent of department.

421-2 International Animal Production. A study of world animal production practices with emphasis on the developing countries. Adaptability of animals to environmental extremes and management practices employed to improve productivity. Prerequisite: junior standing plus 121 or one year of biological science.

430-4 Dairy Cattle Management. Application of the principles of breeding, physiology, and economics to management of a profitable dairy herd. Breeds of dairy cattle, housing, milking practices, and quality milk production. Field trip. Students enrolled will incur field trip expenses of approximately \$25. Prerequisite: 315, 332.

431-4 Reproductive Physiology. Comparative anatomy and physiology of the male and female reproductive system of domestic animals; hormones; reproductive cycles; mating behavior; gestation and parturition; sperm physiology; collection and processing of semen; artificial insemination, pregnancy tests; diseases. Prerequisite: 121 or a course in physiology.

433-4 Introduction to Agricultural Biotechnology. (Same as Plant and Soil Science 433.) This course will cover the basic principles of plant and animal biotechnology using current examples; gene mapping in breeding, transgenic approaches to improve crop plants and transgenic approaches to improve animals will be considered. Technology transfer from laboratory to marketplace will be considered. An understanding of gene mapping, cloning, transfer and expression will be derived. Prerequisite: senior standing or consent of instructor.

434-2 Physiology of Lactation. Anatomy and physiology of milk secretion; endocrine control; milk precursors and synthesis; milk composition; physiology and mechanics of milking, mastitis. Offered only fall semester of odd numbered years. Prerequisite: course in physiology.

435-1 to 4 Agricultural Molecular Biotechnology Seminar. (Same as Plant and Soil Science 435) Molecular biology is rapidly making important contributions to agricultural science through biotechnology. An appreciation of the techniques of molecular biology and their application to plant improvement is important to all in agriculture and biology. The relationships between plant molecular biology and the biotechnology industry will be discussed. Presentations on particular research problems will be made. Graded S/U only

455-2 Animal Waste Management. Acquaints the student with the scope and problems involved with animal waste management, current regulations and laws on environmental protection. Principles covering waste management technology and current livestock waste management systems are presented. Field trips will be scheduled. Prerequisite: junior standing.

465-4 Swine Management. Swine production systems and management techniques including breeding and selection, reproduction, nutrition, herd health and disease prevention, housing and waste management, marketing, production costs, and enterprise analysis. Field trip. Prerequisite: 315 and 332 or consent of instructor.

485-4 Beef Cattle Management. Beef cattle production systems and management, breeding and selection, reproduction, nutrition, and herd health with emphasis on the most economical and efficient systems. Field trip. Students enrolled will incur field trip expenses of approximately \$5. Prerequisite: 315 and 332 or consent of instructor.

490-8 Horse Industry Internship. Provides the equine science students with the opportunity for diversified, practical experience in their area of career-goal interest. One semester will be spent working in a commercial horse-related industry. Not for graduate credit. Prerequisite: 409, 419, senior standing, and consent of instructor.

Animal Science Faculty

Apgar, Gary A., Assistant Professor, Ph.D., Virginia Polytechnic Institute, 1994.

Arthur, Robert D., Professor Ph.D., University of Missouri, 1970.

Goodman, Bill L., Professor, *Emeritus*, Ph.D., Ohio State University, 1959.

Hausler, Carl L., Associate Professor, *Emeritus*, Ph.D., Purdue University, 1970.

Hinners, Scott W., Professor, *Emeritus*, Ph.D., University of Illinois, 1958.

Kammlade, W. G., Jr., Associate Professor, *Emeritus*, Ph.D., University of Illinois, 1951.

King, Sheryl S., Professor, Ph.D., University of California at Davis, 1983.

Kroening, Gilbert H., Professor and *Chair*, Ph.D., Cornell University, 1965.

Olson, Howard H., Professor, *Emeritus*, Ph.D., University of Minnesota, 1952.

Strack, Louis E., Associate Professor, *Emeritus*, D.V.M., University of Illinois, 1961.

Winters, Todd A., Assistant Professor, Ph.D., University of Wisconsin, 1992.

Woody, H. Dee., Associate Professor, Ph.D., Michigan State University, 1978.

Young, Anthony W., Professor, Ph.D., University of Kentucky, 1969.

Anthropology (Department, Major, Courses)

Anthropology is the study of humans and their cultures in terms of universal features, variability, and development through time. The major subdivisions are socio-cultural anthropology, linguistics, archaeology, and physical anthropology. Anthropology is a special major providing capable students with an intensive program emphasizing early integration into upper division coursework. While oriented toward preparation for graduate work, this major is also appropriate for the outstanding liberal arts student seeking a distinctive program. Students must meet a minimum 2.5 gpa requirement for admission into the Anthropology major. The highly motivated student failing to meet this requirement is encouraged to petition the Undergraduate

Studies Committee with a one-page statement justifying their admission. Grades below C in Anthropology courses will not be accepted as fulfilling major requirements.

The student is expected to gain a broad background in all subfields, after which the options of further general study or specialization are available. Students are encouraged to supplement their anthropological studies with work in other social sciences, and where appropriate in biology, earth sciences, humanities, mathematics, or other areas.

Most professional anthropologists find employment as teachers and researchers in colleges and universities. However, a major in anthropology provides the student with a unique liberal arts background bridging the humanities, social, earth, and biological sciences, which leads to many other professional opportunities outside of teaching and research.

An anthropology major is required to take Anthropology 300a, b, c, d, and one each of the 310 and 410 course series. Anthropology seniors are required to participate in the Senior Seminar (Anthropology 480), usually held in the Fall semester. No more than six hours of Anthropology 460 and no more than six hours of 200-level course work may be applied to the major. It should be noted that graduate departments often require foreign language and mathematical background beyond that required by the undergraduate program. Those students not interested in advanced study will be advised on an individual basis reflecting their own particular interests and aspirations.

Students with exceptional scholarly promise may be invited into the departmental honors program, which includes the writing of an honors thesis, usually in the Spring semester of the senior year, under the direction of a departmental faculty member.

Bachelor of Arts Degree, College of Liberal Arts

University Core Curriculum Requirements	41
College of Liberal Arts Academic Requirements (See Chapter 4)	14
Requirements for Major in Anthropology	32
Anthropology 300a, 300b, 300c, 300d and 480 required, and an additional nine hours: three of 310 series, three of 410 series, and three more of 400-level course work in anthropology.	
Electives	33
Total	120

Anthropology Suggested Curricular Guide

FIRST YEAR		FALL	SPRING	SECOND YEAR		FALL	SPRING
Select ¹ (Sci)	3	3		Select ¹ (Math)	-		3
Select ¹ (Soc Sci)	3	3		Select ¹ (Multicultural)	3		-
Select ¹ (Hum)	3	3		SPCM 101 ¹	3		-
ENGL 101, 102 ¹	3	3		Select ¹ (Interdisciplinary Stdy)	-		3
Select ¹ (Fine Art)	-	3		Foreign Language ²	4		4
Select ¹ (Hum Hlth)	2	-		ANTH 300a,d ^{3,4}	4		3
				ANTH 300b,c ⁴	3		3
Total	14	15		Total	17		16
THIRD YEAR		FALL	SPRING	FOURTH YEAR		FALL	SPRING
ANTH 310, 410	3	3		ANTH 480	3		-
ANTH 4XX	3	-		Anthropology Elective	3		3
ANTH 3XX or 4XX	-	6		Elective 300 or 400 level	9		10
ENGL	3	-					
Elective	6	6					
Total	15	15		Total	15		13

¹ See University Core Curriculum

² Two semesters (generally 8 hours) of a foreign language are required for all liberal arts students. Students intending to pursue a graduate education should realize that a foreign language would probably be required for graduate school admission; for these students two years of foreign language is recommended.

³ Sociocultural anthropology is central to major requirements and should be taken as soon as possible. Any two of 300a, b and c may be taken the second year. All four must be taken as a requirement for the major.

⁴ Grade below C in anthropology courses will not be accepted as fulfilling major requirements.

Minor

A minor in anthropology consists of at least 15 hours including at least two of the four courses: 300a, 300b, 300c, 300d, and a minimum of three of the remaining nine hours of 310 series or 400-level courses.

A minor in anthropology for students interested in museum studies may be earned by taking a designated series of museum-oriented courses offered by the Departments of Anthropology, Geology, History, Political Science and the School of Art and Design. Required courses for the minor are drawn from the following: Anthropology 450; Art and Design 207, 447; Geology 445; History 497 and/or 498; and Political Science 446.

Courses (ANTH)

104-3 The Human Experience-Anthropology. (University Core Curriculum) [IAI Course: S1 900N] This course explores different human lifeways around the world, past and present. It investigates the question of what is universal to all humans and the myriad ways they differ, through studying modern people, the remains of past cultures through archaeology, and human origins and physical variation.

201-3 Archaeology of Illinois. A survey of prehistoric cultural development, its causes and consequences, as seen through the archaeology of Native American cultural development in the Illinois region, from the earliest foragers to European contact.

202-3 American Cultures. (University Core Curriculum) [IAI Course: S1 904D] Through studying a variety of topics, such as family, education, health care and popular culture, this course surveys the wide variety of cultures that make up the United States.

205-3 Latin American Civilizations. [IAI Course: S2 910N] Introduction to three civilizations of Latin America: Mexica Aztec; Inka; and Maya. Prehispanic culture history in the lower Amazon River basin and the impact of Spanish contact and conquest on these native Latin American populations will also be discussed.

210-3 Survey of the Primates. Our closest cousins, the primates, display a remarkable diversity of social behavior, reproductive behavior, positional behaviors and diets, and live in a wide variety of environments and ecosystems. This diversity will be reviewed, with an eye to understanding its origin in the past and its anatomical basis.

221-3 The Anthropology of Sexual Behavior. Current issues of sexism and gender roles are brought into focus by a study of patterns of primate and human sexuality. Attitudinal and cultural distinctions between men and women are related to need and pressures on a cross-culture basis.

225-3 Separate Realities. Anthropological approaches to altered states of consciousness. A survey of popular and scholarly works on altered states and the functions of these states in societies, including our own.

231-3 Folklore and Modern Life. The folklore of a culture influences both the unconscious and conscious actions of people in subtle ways and each study helps to account for both the good and the bad which we see in ourselves and in others. The course introduces the student to the study of folklore and serves to emphasize the importance of the study of folk beliefs and their role in understanding our and other contemporary societies.

251-3 Anthropology Through Science Fiction. Basic concepts of anthropology are used to interpret the imaginary worlds of science fiction. Fictional alien cultures are examined to see how features of human biology, language, social organization, technology, etc. are patterned after or are different from known human cultures.

261-3 Issues in Popular Anthropology. A presentation of issues of popular interest which can be clarified through anthropological examination. Among these are the issues of creationism versus evolution, ancient astronauts, the Abominable Snowman, the lost civilization of Atlantis, primitive languages and peoples, and the diversity of sexual practices. The course traces the origins of these issues and beliefs as aspects of American popular culture.

298-1 Multicultural Applied Experience. An applied experience, service-oriented credit in American diversity involving a group different from the student's own. Difference can be manifested by age, gender, ethnicity, nationality, political affiliation, race, or class. Students can sign up for the one-credit experience in the same semester they fulfill the multicultural requirement for the University Core Curriculum or coordinate the credit with a particular core course on American diversity, although neither is required. Students should consult the department for course specifications regarding grading, work requirements and supervision.

300A-3 Introduction to Biological Anthropology. An overview of human biology, including genetics and evolutionary theory, the fossil record, non-human primate behavior and evolution, and the concept of race and biological differences in modern humans. Satisfies CoLA science requirement when taken in conjunction with 300e.

300B-3 Introduction to Anthropological Linguistics. Presents language as a facet of cultural anthropology with emphasis on the methods of linguistic analysis, language history, the functions of language in social and cultural behavior, and the variety of ways different languages classify and organize reality. Open to both majors and non-majors.

300C-3 Introduction to Archaeology. Covers basic theories and methods used in archaeology to study lifestyles of past cultures through an examination of their tools, house and community remains, and art works. Includes methods of excavation, dating techniques, and other methods of analysis. Open to both majors and non-majors.

300D-3 Introduction to Social-Cultural Anthropology. An exploration of current anthropological theories and methods for understanding human cultures from a comparative perspective; also examines human institutions such as religion, politics, and family cross-culturally. Although non-Western societies are emphasized, comparisons with our own are treated as well.

300E-1 Bioanthropology Laboratory. Applied exposure to basic concepts and issues addressed in 300a. Includes genetic inheritance, population genetics, evolutionary models, modern human variation, osteology, forensics, primate anatomy and behavior, and human evolution. May use combination of laboratory work, computer modeling and field study. One two-hour laboratory per week. Prerequisite: must be taken concurrently with 300a. Satisfies CoLA science requirement when taken in conjunction with 300a.

301-3 Language in Culture and Society. The problem of the uniqueness of human language and how it fits into culture and society. The origin and development of language. Topics covered include animal and human communication, language and world view, and the meaning of meaning.

302-3 Indians of the Americas. A region by region survey of the native Americans of North, Middle, and South America. Emphasis is on lifeways: ecology and environment, subsistence, economy, social organization, religion, art, music, and other aspects of culture. A brief introduction to pre-history and language is included.

303-2 Native American Art and Culture. A survey of native American art from traditional through contemporary forms, with a focus on the changing role that art has played in native American culture.

304-3 Origins of Civilization. This course is a survey of development of those ancient complex societies known as civilizations around the world. The emphasis is on the use of archaeological data to understand the interplay of environmental and cultural factors that led to the beginnings of agriculture, population growth, and the origins of cities. Among the early societies that may be analyzed are Mesopotamia, Egypt, China, Europe, Maya, Aztec, and Inca.

310-3 to 27 (3 per topic) Introduction to Peoples and Cultures. An introduction to the prehistory, cultural history, and modern cultures of peoples in the area in question. Topical emphasis may vary from course to course and year to year. (a) Africa, (b) Asia, (c) Caribbean, (d) Europe, (e) South America, (f) Near East and North Africa, (g) North America, (h) Oceania (i) Mesoamerica.

330-3 Biological Foundations of Human Behavior. Discussion of human sexual behavior, the opposition of violence and aggression with cooperative behavior, and the anthropological background of facts concerning whether these behaviors are driven by biological (instinctual) or purely cultural factors.

340-3 Coping in Other Cultures. Applications of anthropology to practical, daily problems faced by professionals working in other cultures. General exploration of the common misconception that one's own culture is the best and only way to get things done, and that one's own language is the best means of communication. Case studies of professionals coping in other cultures.

341-3 Slavery and the Black Diaspora. Focuses on slavery in the Americas and the early phases of the Black Diaspora from a comparative historical and anthropological perspective; the Caribbean, Brazil, and the southern United States will be treated as well as the transatlantic slave trade.

360-3 American Culture. A study of the United States and its subcultures, using anthropological concepts and description to provide a focus for American students on their own culture and an understanding for foreign students of the complexities of American behavior, values, and social structure. Examines subcultures defined by race and ethnicity, immigrant assimilation and culture contact, and experiments in alternative living.

370-3 Anthropology and Contemporary Human Problems. The contribution of anthropology to an understanding of contemporary human problems of environmental crisis, world hunger and overpopulation, social stratification and internal order, war and international order. The approach is cross-cultural drawing on knowledge of all societies and cultures in space and time. Anthropological fundamentals are introduced at the beginning.

376-2 to 8 Independent Study in Classics Program.

402-3 People and Culture. Offered primarily for non-anthropology majors. Focuses on the nature of culture, cultural processes, and cultural change with emphasis on social, political, economic, artistic, religious, and linguistic behavior of humans as individuals and in social groups.

404-3 Art and Technology in Anthropology. An introduction to the basic ways in which people utilize the natural resources of their habitat to meet various needs, such as food, shelter, transportation, and artistic expression. The nature of art, its locus in culture, and its integration into technical society will be considered.

410A-3 Applied Anthropology. The practical applications of theoretical social anthropology. Problems of directed culture change are examined from an anthropological perspective as they apply to the work of the educator, social worker, extension agent, administrator, and others who are attempting to guide change in the life ways of others in Western culture and the third world. Prerequisite: none. 300d recommended for undergraduates.

410B-3 Educational Anthropology. An examination of the cultural processes of formal and informal education, the use of anthropological premises in educational program design, bicultural-bilingual education programs, comparative American-non-American systems, and the teaching of anthropology. Prerequisite: none. 300d recommended for undergraduates.

410C-3 Economic Anthropology. The study of non-Western economic systems. Prerequisite: none. 300d recommended for undergraduates.

410D-3 Anthropology of Folklore. A comparative study of the role of folklore in various cultures of the world, with emphasis upon non-literate societies. Analysis of motifs, taletypes, themes and other elements; comparisons between non-literate and literate groups. Prerequisite: none. 300d recommended for undergraduates.

410E-3 Anthropology of Law. Anthropological thought on imperative norms, morality, social control, conflict resolution and justice in the context of particular societies, preliterate and civilized. Law of selected societies is compared to illustrate important varieties. Prerequisite: none. 300d recommended for undergraduates.

410F-3 Anthropology of Religion. A comparative study of (religious) belief systems, with emphasis upon those of non-literate societies. Examination of basic premises and elements of these belief systems, normally excluded from discussions of Great Religions. Prerequisite: none. 300d recommended for undergraduates.

410G-3 Psychological Anthropology. Similarities and differences in personality structures cross-culturally including the historical development of this as an anthropological subdiscipline. Prerequisite: none. 300d recommended for undergraduates.

410H-3 Expressive Culture. This course examines forms of expressive culture such as art, music, dance, orature, literature, cinema, drama and festival from an anthropological perspective. A broad range of cultures from different geographical areas are surveyed. Particular attention is given to theoretical analysis of expressive culture in society and the role of the arts in the practice of politics, religion, medicine and other aspects of social life. The goal of the course is to develop an understanding of how the arts are employed to bring social arrangements into being, to maintain relations and, at times to facilitate transformations of individuals and society at large.

410I-3 Ethnomusicology of Middle East, Europe and the New World. A survey of theory, method, structure, organology, and cultural context of the ethnomusicology of Europe and the New World.

410J-3 Kinship and Social Organization. Universal features of non-Western systems of kinship terminology and social organization. Topics include the structure and functioning of kinship systems, lineages, clans, sibs, phratries, moieties, and tribal units. Prerequisite: none. 300d recommended for undergraduates.

410K-3 Ecological Anthropology. An examination of the relationship of past and present human populations in the context of their natural and social environments. Prerequisite: 300c and 300d or equivalent.

410L-3 Gender Perspectives in Anthropology. This course will explore the patterns of male-female relationships in different cultural settings (Africa, South-East Asia, the Pacific, the Americas and Europe). The course will deepen students' awareness of gender related issues in social life, and broaden their understanding and appreciation of the cross-cultural variation in male-female relationships. Topical emphasis will vary from year to year. Prerequisite: 300d or consent of the instructor.

410M-3 Healing and Culture. This course examines systems of healing and medicine from an anthropological perspective. The theory and practice of medicine in different cultures, including Western biomedicine, are considered. Particular attention is given to the ways in which medical knowledge gains legitimacy in different social contexts and the problems which arise in culturally heterogeneous arenas when different medical paradigms contend for legitimization. Prerequisite: 300d or consent of instructor.

420-3 Mayan Texts. Detailed examination of Mayan texts written in Mayan languages in their cultural contexts. Texts may range from pre-Columbian hieroglyphic texts, colonial Mayan texts, to modern texts. Prerequisite: 300b or consent of instructor.

425-3 Cognitive Anthropology. The theory of culture as cognitive organization is explored. Among the topics are: Formal analysis of lexical domains, folk classifications and strategies, the problem of psychological validity, linguistic determinism and relativity, biogenetic and psycholinguistic bases of cognition, and the new ethnography.

430A-3 Archaeology of North America. Detailed study of the early cultures of North America. Emphasis on the evolutionary cultural development of North America. Prerequisite: 300c or consent of instructor.

430B-3 Archaeology of Meso-America. Detailed study of the early cultures of Meso-America with emphasis on the evolutionary cultural development of Meso-America. Prerequisite: 300c or consent of instructor.

430E-3 Archaeology of the Eastern Woodlands. Detailed study of the early cultures of the North American Eastern Woodlands with emphasis on the evolutionary development of cultures. Prerequisite: 300c, 302, or 430a or consent of instructor.

430F-3 Archaeology of South America. Survey of the prehistory and ethnohistory of South America, including the peopling of the South American continent, the development of early cultures, the rise and fall of Andean empires, and the impact of Spanish contact and conquest. Prerequisite: 300c or consent of the instructor.

440A-3 The Fossil Evidence for Human Evolution. An advanced consideration of the fossil evidence for human evolution and evaluation of the various theories regarding the course of human evolution. Prerequisite: 300a or consent of instructor.

440B-3 Race and Human Variation. A consideration of the range, meaning and significance of contemporary human biological variation, including evolutionary and adaptive implications and the utility of the race concept. Prerequisite: 300a or consent of instructor.

440C-3 Context of Human Evolution. This course will provide an ecological, behavioral, geological, geographic, and theoretical context from which to understand the evolutionary history of modern humans. The course is designed to complement 440a. Prerequisite: 300a or consent of instructor.

441-6 (3,3) Laboratory Analysis in Archaeology. (a) Emphasizes methods of analysis in archaeology as part of a larger research design created by the student. May be taken independently or as a follow-up to 496. (b) Emphasizes technical methods of the physical and natural sciences in archaeological analysis, as used in environmental reconstruction, dating, and for the investigation of production and exchange.

442-1 to 12 Working with Anthropological Collections. Management, curation, and analysis of anthropological collections as part of a research project created by the student. May be taken independently or as a follow-up to 450, 495, 496, or 597.

444-3 Human Genetics and Demography. A course in human genetics with an emphasis on population genetics and demography of modern and ancient human populations. Prerequisite: 300a, 400a or consent of instructor.

450A-3 Museum Studies - Learning in Museums. A detailed study of museum in the context of their use of exhibitions as an educational medium. Covers the evolution of the museum as a learning environment and the application of learning theory and principles in modern museums. Emphasis is placed on practicum experiences involving the design of learning experiences and educational programs in the museum setting.

450B-3 Museum Studies - Methodology and Display. A detailed study of museums in the context of their use of exhibitions as an educational medium. Focus on the history of museum exhibitions and instruction in the fundamentals of educational exhibit design and curatorial research. Emphasis is placed on practicum experiences involving the design of educational exhibits and curatorial research.

455-3 to 27 (3 per topic) Topics in Bioanthropology. Intensive study of one of the major subfields within biological anthropology. Topical areas include: (a) Dental Anthropology. (b) Laboratory Methods. (c) Primate Behavior and Ecology. (d) Quantitative Methods. (e) Biomedical Anthropology. (f) Human Growth, Development, and Adaptation. (g) Primate Biology and Evolution. (h) Osteology. (i) Comparative and Functional Primate Anatomy.

460-1 to 12 Individual Study in Anthropology. Guided research on anthropological problems. The academic work may be done on campus or in conjunction with approved off-campus (normally field research) activities.

470-3 to 27 (3 per topic) People and Cultures. A survey of the prehistory, cultural history, and contemporary cultures of the area in question. Topical emphasis may vary from course to course and year to year. (a) Africa, (b) Asia, (c) Caribbean, (d) Europe, (e) Latin America, (f) Near East and North Africa, (g) North America, (h) Oceania (i) Mesoamerica. Prerequisite: a basic acquaintance with geography and history of the areas.

480-3 Senior Seminar. Readings and discussion concerning major issues in the study of humankind, with an emphasis on anthropological writing. Not open to graduate students or non-majors. Fulfills the CoLA Writing-Across-the-Curriculum requirement. Prerequisite: 300a,b,c,d.

490-3 Field Methods and Analysis in Linguistic Anthropology. Includes theoretical background and a project in the linguistic aspects of culture. Prerequisite: 300b or consent of instructor.

495-3 to 8 Ethnographic Field School. Apprentice training in the field in ethnographic theory and method. Students will be expected to devote full time to the field school. Prerequisite: consent of the instructor.

496-1 to 8 Field School in Archaeology. Apprentice training in the field in archaeological method and theory. Students will be expected to be in full-time residence at the field school headquarters off campus. Prerequisite: consent of instructor.

499-3 Honors Thesis. Directed reading and field or library research. The student will write a thesis paper based on original research. Not open to graduate students. Prerequisite: consent of department.

Anthropology Faculty

Adams, Jane, Associate Professor, Ph.D., University of Illinois, 1987.

Bender, M. Lionel, Professor, *Emeritus*, Ph.D., University of Texas at Austin, 1968.

Benefit, Brenda R., Associate Professor, Ph.D., New York University, 1987.

Butler, Brian M., Adjunct Associate Professor, Ph.D., Southern Illinois University, 1977.

Corruccini, Robert S., Professor, Ph.D., University of California at Berkeley, 1975.

Dark, Philip J. C., Professor, *Emeritus*, Ph.D., Yale University, 1954.

Ford, Susan M., Associate Professor, Ph.D., University of Pittsburgh, 1980.

Gumerman, George J., Professor, *Emeritus*, Ph.D., University of Arizona, 1969.

Handler, Jerome S., Professor, *Emeritus*, Ph.D., Brandeis University, 1965.

Hill, Jonathan, Professor, Ph.D., Indiana University, 1983.

Hofling, C. Andrew, Assistant Professor, Ph.D., Washington University, 1982.

Kelley, J. Charles, Professor, *Emeritus*, Ph.D., Harvard University, 1948.

Maring, Ester G., Assistant Professor, *Emerita*, Ph.D., Indiana University, 1969.

Maring, Joel M., Associate Professor, *Emeritus*, Ph.D., Indiana University, 1967.

McCall, John C., Assistant Professor, Ph.D., Indiana University, 1992.

McCrossin, Monte L., Researcher III, Ph.D., University of California at Berkeley, 1994.

Muller, Jon D., Professor, Ph.D., Harvard University, 1967.

Newsom, Lee A., Adjunct Assistant Professor, Ph.D., University of Florida, 1993.

Rands, Robert L., Professor, *Emeritus*, Ph.D., Columbia University, 1952.

Rice, Don S., Professor, Ph.D., Pennsylvania State University, 1976.

Rice, Prudence M., Professor and Chair, Ph.D., Pennsylvania State University, 1976.

Riley, Carroll L., Distinguished Professor, *Emeritus*, Ph.D., University of New Mexico, 1952.

Shimada, Izumi, Associate Professor, Ph.D., University of Arizona, 1976.

Stürzenhofecker, Gabriele, Assistant Professor, Ph.D., University of Pittsburgh, 1993.

Taylor, Walter W., Professor, *Emeritus*, Ph.D., Harvard University, 1943.

Applied Arts (Department, Faculty)

Applied Arts Faculty

Bramlet, James E., Assistant Professor, M.A., Western Illinois University, 1970.

Davey, Jon, Associate Professor, M.S., Southern Illinois University Carbondale, 1987.

Davis, L. Noel, Assistant Professor, *Emeritus*, B.S., University of Illinois, 1948.

DeMattei, Michael, Lecturer, M.S., Southern

Illinois University Carbondale, 1993.

Dobbins, John, Assistant Professor, M. Arch., University of Illinois, 1986.

Frisch, Scott, Visiting Lecturer, M.S. Ed., Southern Illinois University Carbondale, 1994.

Gimenez, Atilio M., Assistant Professor, M.

Arch., University of Buenos Aires, 1964.

Hays, Denny M., Associate Professor, M. Arch., University of Utah, Salt Lake City, 1971.

Heckman, Thad, Visiting Assistant Instructor, B.A., Southern Illinois University Carbondale, 1979.

Lach, Norman, Assistant Professor, M. Arch., University of Illinois, 1974.

Ladner, Joel Brooks, Associate Professor, M. Arch., University of Houston, 1984.

LaGarce, Melinda, Assistant Professor, M.F.A., Texas Technology University, 1972.

Little, Harold E., Associate Professor, *Emeritus*, B.S., Pennsylvania State University, 1951.

Mailloux, Lawrence O., Assistant Professor, *Emeritus*, B.F.S., Rhode Island School of Design, 1947.

Osborn, Harold W., Assistant Professor, *Emeritus*, M.S. Ed., Southern Illinois University Carbondale, 1960.

Owens, Terry A., Associate Professor and Chair, M.S., Southern Illinois University Carbondale, 1984.

Poggas, Christy, Assistant Professor, M.S. Ed., Southern Illinois University Carbondale, 1990.

Rutledge, Clifton D., Associate Professor, *Emeritus*, M. Arch., Kansas State University, 1968.

Selligman Lisa, Visiting Lecturer, Applied Arts, M. Arch., Washington University, 1994.

Smith, Peter B., Visiting Assistant Professor, M. Arch., University of Illinois, 1980.

Swenson, Robert, Visiting Lecturer, M. Arch., Yale University, 1969.

Swope, Larry, Visiting Lecturer, M.S. Ed., Southern Illinois University Carbondale, 1970.

Tully, Timothy R., Assistant Professor, M.S., Southern Illinois University Carbondale, 1990.

Walker, Gregory, Lecturer, B.S., Southern Illinois University Carbondale, 1985.

Wessel, Stewart P., Assistant Professor, M.F.A., University of North Texas, 1992.

White, David J., Assistant Professor, M.S. Ed., Southern Illinois University Carbondale, 1991.

White, Robert, Associate Professor, *Emeritus*, M.S., Southern Illinois University Carbondale, 1962.

Yack, John L., Associate Professor, *Emeritus*, M.F.A., University of Oklahoma, 1959.

Applied Sciences and Arts (College, Courses)

Courses (ASA)

The College of Applied Sciences and Arts offers the following technically-related courses. These courses serve as common requirements for various majors. Select courses are available to students enrolled in other academic units.

100-3 Introduction to Applied Sciences and Arts. Designed to introduce prospective clientele to careers in technical fields and in specific to the College of Applied Sciences and Arts with a focus on career decision making, selective admission procedures, course and licensure requirements, and career placement and mobility.

101-1 Student Success Skills. This course is intended to help students to increase their academic and personal success skills and to introduce them to University resources available to assist with their academic and career goals. Prerequisite: restricted to Applied Sciences and Arts majors.

102-2 Technical Writing. To successfully complete this course, the student should be proficient in particular writing techniques (technical description, definition, classification, abstracting, etc.) and follow through a library or field research project in their individual technical fields. Lecture and individualized instruction. Prerequisite: English 101.

126-4 Technical Physics. Introduces the student to the laws and principles of basic, applied physics with emphasis on technical applications and problem solving. Topics include motion, force, energy, power, heat, thermodynamics and electricity. Prerequisite: Mathematics 125 or equivalent.

199-1 to 10 Individual Study. Provides first-year students with the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment provides access to the resources and facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Prerequisite: approval of the sponsor, program supervisor, and division chair.

258-1 to 30 Work Experience Credit. Credit granted for job skills, management-worker relations and supervisory experience for past work experience while employed in industry, business, the professions, or service occupations. Credit will be established by departmental evaluation.

259-1 to 60 Occupational Education Credit. A designation for credit granted for past occupational educational experiences related to the student's educational objectives. Credit will be established by departmental evaluation.

299-1 to 16 Individual Study. Provides students with opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment provides access to the resources and facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Prerequisite: approval of the sponsor, program supervisor, and division chair is required.

319-1 to 15 Occupational Internship. Each student will be assigned to a University approved organization engaged in activities related to the student's academic program and career objectives. The student will per-

form duties and services as assigned by the preceptor and coordinator. Reports and assignments are required to be completed by the student. Hours and credits to be individually arranged. Mandatory Pass/Fail.

340-3 Consumer Problems. Study of family income and expenditure patterns, selection of commodities and an analysis of consumer protection devices.

350-1 to 32 Technical Career Subjects. In-depth competency and skill development and exploration of innovative techniques and procedures used in business, industry, professions, and health service occupations offered through various workshops, special short courses, and seminars. Hours and credit to be individually arranged. This course may be classified as independent study. Prerequisite: consent of instructor.

465-3 Consumer Relations. A study of the information and skills business representatives need to conduct and manage consumer relations such that the objectives of both consumers and businesses are met. Emphasis will be placed on consumer service management and communication skills. Consumer relations is viewed as a strategy to generate consumer satisfaction and loyalty, as well as a course of consumer feedback for upper management regarding the improvement of product and services. Not for graduate credit. Prerequisite: senior standing or consent of instructor.

Applied Technology (Department, Faculty)

Applied Technologies Faculty

Beauchamp, Clarence, Assistant Professor, *Emeritus*, M.S., University of Wisconsin, Stout, 1949.

Behrmann, Michael, Assistant Professor, Automotive Technology, M.S. ED., Southern Illinois University Carbondale, 1995.

Cash, Joe R., Associate Professor, Automotive Technology, Ph.D., Southern Illinois University Carbondale, 1996.

Collard, Rodney, Assistant Professor, Automotive Technology, M.S. ED., Southern Illinois University Carbondale, 1990.

Crenshaw, J. Howard, Instructor, *Emeritus*, Mathematics and Science, M.S., University of Illinois, 1940.

Ferketich, Gregory, Lecturer, Tool and Manufacturing Technology, M.A., California State University, 1989.

Gilbert, David W., Assistant Professor, Automotive Technology, M.S., Oklahoma State University, 1981.

Greer, Jack, Assistant Professor and *Acting Chair*, Automotive Technology, M.S. ED., Southern Illinois University Carbondale, 1997.

Harbison, James L., Instructor, *Emeritus*, Mathematics and Science, M.S., University of Illinois, 1940.

Jeralds, Lawrence E., Assistant Professor, Automotive Technology, M.S., Southern Illinois University Carbondale, 1988.

Jones, Paul, Instructor, *Emeritus*, Automotive Technology.

Kazda, Joseph G., Assistant Professor, *Emeritus*, Automotive Technology, M.S. ED., Southern Illinois University Carbondale, 1965.

Lampman, Duncan, Associate Professor,

Emeritus, Construction Technology and Tool and Manufacturing Technology, M.S. ED., Southern Illinois University Carbondale, 1956.

Lappin, Michael J., Visiting Assistant Instructor, Tool and Manufacturing Technology, B.S., Southern Illinois University Carbondale, 1993.

Morris, Michael, Instructor, Automotive Technology, M.S. ED., Southern Illinois University Carbondale, 1997.

Romack, Charles, Assistant Professor, Automotive Technology, B.S., Southern Illinois University Carbondale, 1965.

Sanders, Eugene, Assistant Professor, Tool and Manufacturing Technology, B.S., Southern Illinois University Carbondale, 1956.

Schultz, James R., Instructor, Tool and Manufacturing Technology, M.S., Southern Illinois University Carbondale, 1994.

Simpson, Jerry, Assistant Professor, *Emeritus*, Automotive Technology, M.S., Colorado State University, 1966.

Soderstrom, Harry R., Professor, *Emeritus*, Tool and Manufacturing Technology, M.S., Bradley University, 1952.

Traylor, George Lelon, Associate Professor, *Emeritus*, Tool and Manufacturing Technology, M.S. ED., Southern Illinois University Carbondale, 1965.

Tregoning, Philip, Assistant Professor, Tool and Manufacturing Technology, *Emeritus*, M.S. ED., Southern Illinois University Carbondale, 1965.

White, James E., Assistant Professor, *Emeritus*, Applied Technologies, B.S. Ed., Southern Illinois University Carbondale, 1961.

Architectural Studies (Major, Courses)

The most basic human response to the earth's environment has been the development of methods which increase the probability of survival. The most obvious of these was the creation of shelters by which the impact of climate and the changing seasons could be controlled. From this simple reaction, architecture has evolved which reflects and promotes the cultural, economic and philosophical trends of our societies.

The four-year curriculum in architectural studies offers the beginning level of education for those who intend to pursue a career in this profession or a related field. A structured sequencing of courses is included which provides for a gradual interactive development of required knowledge and skills. This pre-professional preparation is combined with the University Core Curriculum courses to provide a comprehensive scholarly foundation for advancement.

The degree meets educational requirements for licensure in architecture in the State of Illinois as overseen by the Department of Professional Regulation. Students also are eligible for participation in the Intern Development Program sponsored by the National Council of Architectural Registration Boards. A wide variety of employment options exists. Some areas include design, planning, preservation, government regulation, construction, building products and facilities management.

To support students in their educational endeavors, department facilities include a resource library complete with reference books, professional periodicals, current manufacturers' catalogs and a sample room. A dedicated computer laboratory also is available for investigations in computer-aided drawing and design.

While facilities are provided for use, cost for supplies, individual equipment and required field trips necessary to the successful completion of the program are borne by the student. Due to variation in individual materials used, it is impossible to predict the exact costs for each student. A reasonable estimate of additional expenses is in the range of \$600 per academic year.

Students are encouraged to participate in professional related student organizations which include the American Institute of Architecture Students, Construction Specifications Institute, and Illuminating Engineering Society. Additional activities designed to enhance the overall quality of education include the University Honors Programs, travel study programs, workshops, guest lectures and co-op opportunities.

All applicants must satisfy standard University baccalaureate entrance requirements in order to be admitted into the University and included in the Architectural Studies applicant pool. Enrollment in the Architectural Studies program will be based upon selective admission criteria. High School graduates will be evaluated on ACT results and class rank. Transfer students will be evaluated on grade point average as calculated by Southern Illinois University Carbondale.

Prospective students attending another college or university prior to transferring to Southern Illinois University Carbondale should concentrate on completing courses articulated or approved as substitutes for Southern Illinois University Carbondale's University Core Curriculum requirements. Prior to taking courses that appear to equate to the professional sequence, the applicant should consult with Architectural Studies.

Bachelor of Science Degree, College of Applied Sciences and Arts

University Core Curriculum.....	41 ¹
As per university requirements for baccalaureate degrees, but must include Art and Design 101 and History 101a,b.	
Requirements for Major in Architectural Studies	(6) + 79
MATH 140.....	(3) + 1
ASA 126	(3) + 1
ARC 111, 112, 113, 115, 118, 124, 125, 214, 215, 216, 219, 220, 223, 226, 315, 316, 324, 371, 372, 415, 471 each with a minimum grade of C.....	77_____
Total.....	120

¹ Two courses required for the major (Applied Sciences and Arts 126 and Mathematics 140) will apply toward six hours of University Core Curriculum making a total of 41 in that area.

Architectural Studies Suggested Curricular Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
ARC 111	5	-	ARC 118	3	-
ARC 112	3	-	ARC 125	4	-
ARC 115	-	4	ARC 223	-	3
ARC 113	3	-	MATH 140	4	-
ARC 124	-	5	HIST 101a,b	3	3
ENGL 101, 102	3	3	ASA 126	-	4
AD 101	-	3	Core Science	-	3
Core Human Health	-	2	SPCM 101	-	3
<i>Total</i>	14	17	<i>Total</i>	14	16
THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
ARC 214	5	-	ARC 315	4	-
ARC 215	-	4	ARC 316	-	3
ARC 216	4	-	ARC 371	-	3
ARC 219	2	-	ARC 372	3	-
ARC 220	-	2	ARC 415	-	6
ARC 226	-	4	ARC 471	-	3
ARC 324	-	4	Core Social Science	3	-
Core Social Science	3	-	Core Interdisciplinary	3	-
Core Multicultural	3	-	<i>Total</i>	13	15
<i>Total</i>	17	14			

Courses (ARC)

111-5 Introduction to Architectural Drawing. Basic principles in the geometry of architectural drawings to include orthographic projection and pictorial drawing. Lecture: three hours. Laboratory: four hours. Prerequisite: major in architectural studies or consent of instructor.

112-3 Architectural Graphics. Materials, methods and techniques in architectural graphics through sketching and drawing in various black and white media, theory and use of color, and delineation in various color media. Lecture: one hour. Laboratory: five hours. Prerequisite: major in architectural studies or consent of instructor.

113-3 Architectural History. The study of the influences and development of architectural from prehistoric through the contemporary period. In particular, the study of structure, aesthetics, and language of architecture. Lecture: three hours. Prerequisite: major in architectural studies or consent of department chair.

115-4 Introduction to Design. This course introduces the student to the basic principles and elements of design by means of practical and abstract applications. Development of two and three dimensional solutions to conceptual design problems. Instruction through presentation and critique in a design studio setting. Lecture: two hours. Laboratory: six hours. Prerequisite: 111, 112 and major in architectural studies or consent of instructor.

118-3 Computer Applications in Architecture. This course serves as an introduction to various electronics media employed within the practice of architecture. Creative and effective skills in the use of computers in architectural applications is consistently stressed. Lecture: three hours. Prerequisite: major in architectural studies or consent of instructor.

124-5 Architectural Drawings I. Introduction to basic materials and components used in contemporary construction. A survey of manufacturing methods, available sizes, performance characteristics, quality, finishes and applications. Usage of vendor's brochures and standard references. Preparation of working drawings in light wood frame construction to practice current procedures, dimensioning, notation and design correlation, with standard and creative detailing. Lecture: three hours. Laboratory: four hours. Prerequisite: 111, 118 and major in architectural studies or consent of instructor.

125-4 Architectural Design I. Problem solving in architectural design with emphasis on design elements and principles, human scale, methods and procedures, composition, and presentation. Architectural projects of relatively small scope and simple nature. Lecture: one hour. Laboratory: five hours. Prerequisite: 113, 115, 118 and major in architectural studies or consent of instructor.

199-1 to 10 Individual Study. Provides first-year students with the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment provides access to the resources of facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Prerequisite: approval of the sponsor and department chair.

214-5 Architectural Drawings II. Continuing study of materials and practices in document preparation for non-complex buildings using masonry and reinforced concrete construction. Investigation and use of local, state, and federal codes regulating health and safety. Construction techniques relating to criteria of permanence, low maintenance and budget requirements. Working drawings for two-level, light commercial/industrial buildings. Lecture: three hours. Laboratory: four hours. Prerequisite: 124 and major in architectural studies or consent of instructor.

215-4 Architectural Design II. Continuing study of architectural design with application of principles and procedures for projects of increased scope and complexity, with attention to research, site planning, and comprehensive feasibility. Presentations in various media. Lecture: one hour. Laboratory: five hours. Prerequisite: 125 and major in architectural studies or consent of instructor.

216-4 Architectural Structures I. Elementary study of forces and force systems using graphic and analytic methods. Basic structural concepts: reactions, shear and moment diagrams, axial, eccentric and combined loading on beams and columns. Review of principles used in the design of floor and roof structural systems: load analysis, acting and resisting stresses. Analytic and graphic truss stress analysis. Lecture: four hours. Prerequisite: Mathematics 140, Applied Sciences and Arts 126 and major in architectural studies or consent of instructor.

217-2 Architectural Systems. Basic principles of mechanical and electrical equipment of buildings. Familiarization with water supply and sanitation systems. Fundamentals of properties of heat, air conditioning, and purification systems. Fundamentals of illumination and electrical systems. Fundamentals of acoustics and materials for reflection, attenuation, and isolation. Lecture: two hours. Prerequisite: Information Management Systems 125, Applied Sciences and Arts 126 and major in architectural studies or consent of department chair.

219-2 Architectural Site Planning. Fundamentals of topography, site planning, building location, preparation of detailed site drawing, introduction to use of surveying equipment. Lecture: two hours. Prerequisite: 124 and major in architectural studies or consent of instructor.

220-2 Architectural Specifications. Function of specifications as a contract document. The relationship of specifications to architectural drawings, organization and format. Content of various sections of the specifications document. Lecture: two hours. Prerequisite: 214 and major in architectural studies or consent of instructor.

223-3 Architectural History II. This course covers the development of modern architecture and urban planning from the nineteenth century to the present. This will include the development of American, British and Continental architecture and urban planning, including the influence of Japanese architecture and design. Lecture: three hours. Prerequisite: 113 and major in architectural studies or consent of instructor.

226-4 Architectural Structures II. Continued study of structural framing systems. Investigation of materials and design of structures through selection of the safest and most economical shapes to satisfy the requirements for structural members commonly used in building construction. Formulation and use of structural design procedures, with regard to material limitations and code requirements, and the selection of structural members. Lecture: four hours. Prerequisite: 216 and major in architectural studies or consent of instructor.

229-2 Architectural Estimating. Study of estimating methods including material lists and quantities, material and labor costs, and factors affecting construction costs. Lecture: two hours. Prerequisite: Information Management Systems 125, 214 and major in architectural studies or consent of department chair.

299-1 to 16 Individual Study. Provides students with opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment provides access to the resources of facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Prerequisite: approval of the sponsor and department chair.

315-4 Architectural Design III. Correlation of the schematic design and design development phases of the project from the initial program with appropriate drawings required for each phase. Lecture: two hours. Laboratory: four hours. Prerequisite: 215, 223 and major in architectural studies or consent of instructor.

316-3 Architectural Structures III. Continuing study of framing materials and systems for buildings using advanced concepts of structural analysis. Included are earthquake resistant structures, composite beams, plastic theory, statically indeterminate structures, long spans, moment distribution, multi-story structures, etc. Lecture: three hours. Prerequisite: 226, major in architectural studies or consent of instructor.

318-3 Architectural CADD I. Introduction to, and the development of the competencies and skills in the use of computer aided design and drafting in the architectural disciplines. Includes the development of two dimensional drawings using the C.A.D. system. Prerequisite: 111 and consent of department chair.

319-1 to 15 Occupational Internship. Each student will be assigned to a University approved organization engaged in activities related to the student's academic program and career objectives. The student will perform duties and services as assigned by the preceptor and coordinator. Reports and assignments are required to be completed by the student. Hours and credits to be individually arranged. Mandatory Pass/Fail.

320-1 to 12 Architectural Cooperative Education. The student will participate in an Architectural Technology approved cooperative education program that includes formal instruction, training and/or career related work experiences. Students receive a salary or wages and engage in pre-arranged assignments related to their academic program and career objectives. Department faculty evaluations, cooperative agency student performance evaluations and student reports are required. Cooperative experience may be in one or more of the following broad areas: (a) schematic design, (b) design development, (c) construction documents, (d) bidding or negotiations, (e) construction administration. Hours and credit to be individually arranged.

324-4 Architectural Drawings III. Correlation of the design development and construction documents phases of a building project. Development of the project from design development through construction drawing phases with appropriate drawings required for each phase. Lecture: two hours. Laboratory: four hours. Prerequisite: 214 and major in architectural studies or consent of instructor.

328-3 Architectural CADD II. Skill development of the computer aided drafting system in the preparation of contract documents in all architectural disciplines and specifically working drawings. Emphasis will be placed upon developing competencies in data and graphics repeatability. Prerequisite: 318 and consent of department chair.

338-3 Architectural CADD III. Skill development in the computer aided design system in the schematic and design development phases of all architectural disciplines. The use of the computer aided design system as a tool for three dimensional creative problem solving. Prerequisite: 328 and consent of department chair.

350-1 to 32 Technical Career Subjects. In-depth competency and skill development and exploration of innovative techniques and procedures used in business, industry, professions, and health service occupations offered through various workshops, special short courses, and seminars. Hours and credit to be individually arranged.

ranged. This course may be classified as independent study. Prerequisite: consent of instructor and department chair.

371-3 Lighting and Acoustical Systems. The study of lighting and acoustics as major tools in designing interior spaces through actual problem solving. Emphasis is on task, ambient and specialty lighting as well as sound control within and between spaces. Lecture. Prerequisite: Mathematics 140 or University Core Mathematics and Architectural Studies 324 or Interior Design 272 or concurrent enrollment in Interior Design 272.

372-3 Mechanical and Plumbing Systems. Study of interior architectural mechanical equipment as it relates to the proximate environment. Emphasis is on heating, cooling, ventilation, and plumbing systems with attendant building codes. Lecture. Prerequisite: Mathematics 140 or University Core Mathematics and Architectural Studies 324 or Interior Design 272 or concurrent enrollment in Interior Design 272.

415-6 Architectural Design and Construction Documentation. The student will complete schematic design, design development and construction documents for a minimum 2-story building, emphasizing the integration of the basic elements of building, structural and environmental technologies. Lecture: two hours. Laboratory: eight hours. Prerequisite: 226, 315, and 324 and major in architectural studies or consent of instructor.

444-1 to 6 Architectural Field Studies. In situ study of specified world area(s) concerning the influence of the region's particular culture on architecture, landscape, urban and interior design. The course reviews both historic and current; ethnicity, social, philosophical, religious, economic and political values of the region being visited to gain insights on the symbiotic relationship between culture and design. Prerequisite: program major in the Department of Applied Arts or consent of department chair. Fees: cost of transportation, lodging, access fees and general cost related to delivery of the curriculum items that are in addition to on-site courses. Credit hours are dependent on duration and region studied

471-3 Professional Practice. Introduction to the organization, management, and practice of architecture and interior design as a business and profession. Emphasis is placed on the range of services provided, professional ethics, business management, marketing, contracts and negotiations, design cost analysis/control, and other aspects of professional practice. Lecture: three hours. Not for graduate credit. Prerequisite: 215 or Interior Design 392 or consent of department chair.

Architectural Studies Faculty

(SEE APPLIED ARTS)

Army Military Science (Department, Minor, Courses)

Army Military Science studies is a voluntary course sequence which may lead to a commission as an officer in the United States Army (Active Army, Army Reserves, or Army National Guard). The basic course, consisting of five 100 and 200 level courses, is open to all students and carries no military obligation. Students may take one or all of the basic courses offered, receiving credit hours for each course without incurring a commitment to further study in Army Military Science or any branch of the armed forces. If a student continues into the advanced course, the student will then incur a military obligation. The obligation may be served in the Active Army, Army Reserves, or Army National Guard after the student is commissioned as an officer upon completion of the Army Military Science program. Students who wish to complete the program must complete a bachelor degree, although the field of study is unrestricted. Courses in communication skills, computer literacy, and military history are required.

Veterans of any service, students who are currently members of the armed forces (Reserve or National Guard), and students who have successfully completed three or four years of Junior Reserve Officer Training Corps instruction, may be eligible to enroll into the advanced course once they have obtained junior academic status at the University. Students who have no prior military service may attend a six week basic camp at Fort Knox, Kentucky, which will qualify them for entrance into the advanced course of Army Military Science. This six week camp incurs no obligation on the part of the student.

All students enrolled in the advanced course must attend a 35 day advanced camp at Fort Lewis, Washington between the first and second years of the advance course (normally the summer between the junior and senior school year). Both the basic and advanced camp pay the student for travel and attendance at camp, plus provide free room, board, and uniforms.

The Army Military Science program offers a progressive adventure-filled two-year and four-year program, designed to teach students the leadership and management skills needed to pursue an exciting career in the United States Army. The student

who successfully completes the program will receive a commission either in the Regular Army, the Army Reserves, or the Army National Guard. Students may request and be guaranteed reserve forces duty, which allows the student to pursue parallel dual careers in the reserve components of the Army and civilian economy. The four-year program is divided into the basic course, covering freshman and sophomore years, and the advanced course covering the junior and senior years.

The basic course prepares students for the advanced course and provides them with an education in national defense, basic leadership, and management skills. The advanced course is designed to provide training and instruction encompassing a wide range of subjects from organizational and managerial leadership, ethics and professionalism, and military justice, to the United States military history. The understandings and experiences derived from these courses and adventure training exercises are required to enable a student to grow into an effective junior officer in the U.S. Army.

The student additionally learns about the wide range of Army career specialties available and has the opportunity to request duty in those fields where qualified. Those students currently in the Guard or Army Reserves may continue to participate in their Guard/Reserve unit and pursue a commission through the Army's Simultaneous Membership Program.

Freshman and sophomore students enrolled in the four-year program are eligible to compete for Army Military Science scholarships for two or three years. These scholarships pay full tuition, fees, books and a \$150 per month subsistence allowance. Illinois residents, who are enrolled in ROTC, can compete for state Army ROTC scholarships, which pay tuition and other selected fees.

In addition to courses offered for academic credit, the Department of Army Military Science sponsors extracurricular activities. The Ranger Challenge Team, Marksmanship Team, Drill and Color Guard Teams, and AUSA Company are open to all ROTC students. Adventure training takes place in the form of rappelling clinics, field training exercises, survival training, canoe trips, caving exercises, and Civil War Battlefield terrain walks. The department also sponsors numerous formal social functions throughout the year.

Further information may be obtained from the Department of Army Military Science, telephone (618) 453-5786.

Minor

A minor in Military Science consists of at least 25 semester hours, including course work in AMS courses 301, 302, 358, 401 and 402 plus designated courses in communications, military history and computer literacy. Courses in national security affairs and management are also highly encouraged. With its emphasis on leadership and small unit tactics, this minor is structured to develop the attributes required of successful officers in today's United States Army. This minor also recognizes sustained course work in a discipline other than the student's major area of study. Students must discuss their minor program with the director, Army Military Science, to design a coherent program to meet their individual needs.

Courses (AMS)

101-1 to 2 Introduction to Military Science I. Introduction to basic military science focusing on leadership skills and individual tasks. This introductory course will provide the student with realistic experience in leadership and hands-on experience with a variety of army equipment. This course also offers a leadership lab with the Corps of Cadets.

102-1 to 2 Introduction to Military Science II. Expanded introduction to basic military skills focusing on squad level tactics, written orders, security, first aid and drill and ceremony. Realistic experiences that challenges the student's ability to apply their leadership with doctrinal guidelines.

201-3 Basic Leadership Skills. Applied leadership in a small group context. Exercises in self-confidence, group communications, and leadership evolved from situations where the group is required to function and survive on a self-sufficient basis. Principles of survival and cooperative effort will be explored in depth, with maximum involvement of the student in leadership and problem-solving roles. Includes Leadership Laboratory.

202-3 Leadership and Management Techniques. A study of the Military Management System, including the functional aspect of leadership within the military structure. Includes the presentation of military leadership traits, styles, approaches, managerial techniques, and communications.

203-6 Basic Leadership Camp. A special six-week training program designed to prepare students for the advanced course of ARMY ROTC. The course is conducted at Ft. Knox, Kentucky during the summer. Students are evaluated on their potential to become an Army Officer. Prerequisite: consent of the director of Army Military Science.

301-4 A Study of Organizational Leadership. A multi-faceted approach to the study of leadership in both a military and civilian setting. Emphasis is placed upon human behavior, communication, the individual as a leader, group dynamics, and the military's interface with society. An extensive block on ethics, morality and the Code of Conduct is also presented. Physical training techniques are taught with practical application. Includes Leadership Laboratory. Prerequisite: consent of the director of Army Military Science.

302-4 Small Unit Tactics. The student is introduced to small unit tactical operations at the platoon and company level. Offensive, defensive, and retrograde operations are covered in detail. Unit organization and patrolling are also stressed. Practical exercises are conducted in the classroom and in field environments. Physical training is also conducted. Prerequisite: consent of the director of Army Military Science.

358-6 Advanced Leadership Camp. A special 35 day field study training program designed to further prepare Army ROTC advanced course students for the basic tasks that will be required of them as junior officers and leaders in the Army. The course is normally conducted at Ft. Lewis, Washington during the summer. Prerequisite: consent of the director of Army military science.

401-4 Advanced Leadership and Management. An analysis of selected leadership and management problems in the following military subjects: unit administration at company level emphasizing correspondence; fundamental concepts of military justice in the armed forces of the United States, including the procedures by which judicial and nonjudicial disciplinary measures are conducted; U.S. Army readiness program as it deals with unit maintenance; the position of the United States in the contemporary world scene discussed in light of its impact on leadership and management problems of the military service; and a fundamental knowledge of the logistical support available to the unit. Leadership development is continued by the application of leadership principles, stressing responsibilities of the leader, and increasing experience through practical exercises. Includes Leadership Laboratory. Not for graduate credit.

402-4 Fundamentals and Dynamics of the Military Team. This course is designed to give the students a working knowledge in the theory and dynamics of the military team. Generally this includes a study of combat operations by the various military teams, with emphasis on the planning and coordination necessary between the elements of the team. The subjects to be presented during this block of instruction include an understanding of command and staff organization at the battalion level, military intelligence methods and procedures used to obtain intelligence, and an analysis of the principles used in internal defense and development, emphasizing tactical operations which include civil affairs. Since this course is presented just prior to the commissioning of the cadets, several hours of instruction are presented near the end of the school year on the obligations and responsibilities of an Army officer. Includes Leadership Laboratory. Not for graduate credit.

403-1 to 3 Independent Study in Military Science. Directed independent study in selected areas. Students may register for one hour per semester or may register for one hour for the first semester and two hours for the second. They may not register for three hours during one semester. Not for graduate credit. Prerequisite: consent of the director of Army military science.

Army Military Science Faculty

Bauerle, Edward T., MSG, Senior Adjunct Instructor.

Cagle, Jon R., MSC, Adjunct Instructor.

Coblentz, Larry G., Captain, Adjunct Assistant Professor, B.S., Frostburg State University 1990.

Hannaman, Edgar M., CPT Adjunct Assistant Professor, B.A., Eastern Illinois University, 1987.

Parsons, Michael J., CPT Adjunct Assistant Professor, B.S., US Military Academy, West Point, 1991.

Pietrowski, Douglas P., CPT, Adjunct Assistant Professor, B.S., St. John's University, Minnesota, 1991.

Scott, Koley O., Staff Sergeant, Adjunct Assistant Instructor.

Simpson, Glen E., SFC, Adjunct Instructor.

Slider, William Z., Lieutenant Colonel, Professor of Military Science, M.S., Cornell University, 1984.

Smith, Sharon J., SFC, Adjunct Assistant Instructor.

Stroud, Timothy B., LTC, Adjunct Professor and Director, M.P.A., University of Missouri at Kansas City, 1992.

Ware, Robert A., Major, Adjunct Assistant Professor, B.S., Central Michigan University, 1983.

Art and Design (School, Majors [Art, Design], Courses)

The School of Art and Design offers two undergraduate degrees, the Bachelor of Fine Arts and the Bachelor of Arts. The B.F.A., a professional degree, includes ten specializations: art education, ceramics, drawing, fibers/weaving, industrial design, metalsmithing, painting, printmaking, sculpture and visual communication. Under

the B.A. degree there are two majors: art and design. The B.A. degree in art includes three specializations: art education, art history and general studio; and the B.A. in design includes three programs: general design, industrial design and visual communication.

With a B.F.A. degree in ceramics, drawing, fibers/weaving, metalsmithing, painting, printmaking or sculpture, students are prepared to practice as studio artists, go on to advanced study, or enter careers related to their studio specializations. The B.F.A. specializations in industrial design and visual communication prepare students with the intellectual, technological and practical knowledge required in the professional world of design. With a specialization in visual communication the student learns to communicate messages using a broad range of creative ideas, information, images and media, as well as how to mediate between a client and an audience. The goal of the specialization is to prepare students for professional graphic design practice and continued personal and creative growth in publication, promotion, corporate identity, packaging, advertising and/or environmental graphic design. With a specialization in industrial design students are prepared to practice in the industrial field of contemporary product development.

The specialization of art education is offered within a liberal arts (B.A.) as well as a professional (B.F.A.) curriculum format. Upon completion of either program students in art education are prepared and certified to teach in the public schools. However, the Bachelor of Fine Arts degree program offers the student more studio electives in art and design. With the B.F.A. degree in art education students are better prepared to teach studio arts in American schools or go on for advanced study either in art or art education.

In the B.A. degree, the specialization in art history prepares students for advanced study or for careers that require scholarly and liberal arts training. The general studio specialization is the most flexible program. By means of both requirements and elective options, students may plan interdisciplinary programs in art or develop programs leading toward a specific career objective.

The B.A. specialization in general design is an interdisciplinary approach to studying and applying design principles and methodologies. The curriculum exposes students to the broad applications of design and designing as a process of change. Emphasis is placed on creative and critical thinking skills suitable for application in a wide range of employment possibilities as well as preparation for many graduate programs. Developing skills that help individuals think independently and excel as effective team members is a goal of the general design specialization. A visual communication or industrial design specialization prepares students to experience sensibilities within a liberal arts context. The specializations may prepare the student for further studies in design or to enter professional practice.

The education of teachers, scholars, artists and designers requires both a comprehensive program in the specializations and a university core program outside of the major. In meeting these objectives the school emphasizes both theory and practice in its specializations. Studies are sequentially planned to facilitate orderly matriculation through the baccalaureate curricula.

Prior to entry into a selected specialization, all majors are required to complete foundation studies: beginning coursework in art history, drawing, and two- and three-dimensional design. In addition, for entrance into the art B.F.A. and the design B.A. specializations, students must have successfully completed a portfolio review of work from previous art studies (at SIUC or elsewhere). The review will be conducted upon completion of the foundation studio courses and one or two courses specific to the specialization.

Transfer students seeking admission from another program at Southern Illinois University Carbondale must meet the same requirements as those seeking admission from another institution (See Chapter 2). Evaluation of a studio course for transfer credit from another institution will be made on the basis of a presentation of the work (or professional quality slides of the work) executed in the course to determine whether the course will be considered equivalent to a specific course or accepted as

studio elective credit.

Most prerequisite courses must be completed with a grade of C or better before a student may advance into the next course. Students should refer to individual course descriptions for specific information.

ART MAJOR

Bachelor of Fine Arts Degree, College of Liberal Arts

A student majoring in art should select one of the following fields of interest by the end of the sophomore year: art education, industrial design, drawing, painting, printmaking, sculpture, ceramics, metalsmithing, fibers/weaving, visual communication.

ART MAJOR—ART EDUCATION SPECIALIZATION

University Core Curriculum Requirements 41

The following must be taken in order to satisfy state teacher certification requirements: HED 101 or PE 101; ENGL 121 or 204; HIST 110; POLS 114; PLB 301i, 303i or ZOOL 312i; one of AD 227, ANTH 202, ENGL 205, HIST 202, 210, LING 201, PHIL 211 or SOC 215

Art and Design 207a is to be taken as an approved substitution for the University Core Curriculum Fine arts course.

Requirements for Specialization in Art Education (3) + 66

Foundation requirements: Art and Design 100a, 100b, 110, 120, (207a), 207b..... (3) + 15

Studio requirements: Art and Design 201, 202, 203, 204, 205, 206..... 18

Art education requirements: 308, 318, 328a, 338a, 328b or 338b..... 10

Art and Design history electives: 300- or 400-level 9

Art and Design studio electives 11

Psychology 102 3

Professional Education Requirements..... 28

See Teacher Education Program.

Total..... 135

ART MAJOR—CERAMICS SPECIALIZATION

University Core Curriculum Requirements 41

Art and Design 207a should be taken as an approved substitution for the University Core Curriculum fine arts course.

Requirements for Specialization for Ceramics (3) + 94

Foundation requirements: Art and Design 100a, 100b, 110, 120, (207a), 207b (3) + 15

Major requirements: Art and Design 200 or 201 or 202, 203, 204, 6 credits from 205 or 206 or 214, 304a, 304b, 389, 404a, 404b, 404c, 404d 45

Art and Design history electives: 300- or 400-level 9

Craft or sculpture electives 9

Studio art electives 16

Total 135

ART MAJOR—DRAWING SPECIALIZATION

University Core Curriculum Requirements 41

Art and Design 207a should be taken as an approved substitution for the University Core Curriculum fine arts course.

Requirements for Specialization in Drawing (3) + 94

Foundation requirements: Art and Design 100a, 100b, 110, 120, (207a), 207b, (3) + 15

Major Requirements: Art and Design 200, 201, 202, 203, 204 or 205 or 206, 300-9, 301a, 301b, 302a or 302b or 302c, 389, 400a, 400b, 400c 54

Art and Design history electives: 300- or 400-level	9
Studio art electives	16
Total	135

ART MAJOR—FIBERS/WEAVING SPECIALIZATION

<i>University Core Curriculum Requirements</i>	41
Art and Design 207a should be taken as an approved substitution for the University Core Curriculum fine arts course.	
<i>Requirements for Specialization in Fibers/Weaving</i>	(3) + 94
Foundation requirements: Art and Design 100a, 100b, 110, 120, (207a), 207b	(3) + 15
Major requirements: Art and Design 200, 202, 201 or 203, 204 or 205 or 214, 206, 242, 306a, 306b, 389, 406a, 406b, 406c, 406d, Cinema and Photography 225	48
Art and Design history electives: 300- or 400-level	9
Craft electives	6
Studio art electives	13
Total	135

ART MAJOR—INDUSTRIAL DESIGN SPECIALIZATION

<i>University Core Curriculum Requirements</i>	41
Art and Design 207a is to be taken as an approved substitution for the University Core Curriculum fine arts course.	
<i>Requirements for Specialization in Industrial Design</i>	(3) + 94
Foundation requirements: Art and Design 100a, 100b, 110, 120, (207a), 207b.....	(3) + 15
Major requirements: Art and Design 200, twelve hours from 203, 204, 205, 300, 303, 304 or 305; 213, 223, 242, 253, 263, 313, 323, 333, 337, 363, 383, 413, 423, 443, 489a	60
Art history electives (300- or 400- level)	6
Art and Design or cognate electives	13
Total	135

ART MAJOR—METALSMITHING SPECIALIZATION

<i>University Core Curriculum Requirements</i>	41
Art and Design and 207a should be taken as an approved substitution for the University Core Curriculum fine arts course	
<i>Requirements for Specialization in Metalsmithing</i>	(3) + 94
Foundation requirements: Art and Design 100a, 100b 110, 120, (207a), 207b	(3) + 15
Major Requirements: Art and Design 203, 205, 6 hours from 204, 206, or 214, 223, 305a, 305b, 389, 405a, 405b, 405c, 405d	45
Art and Design history electives: 300- or 400-level	9
Craft or sculpture electives	9
Studio art electives	16
Total	135

ART MAJOR—PAINTING SPECIALIZATION

<i>University Core Curriculum Requirements</i>	41
Art and Design 207a should be taken as an approved substitution for the University Core Curriculum fine arts course.	
<i>Requirements for Specialization in Painting</i>	(3) + 94
Foundation Requirements: Art and Design 100a, 100b, 100, 120, (207a), 207b,	(3) + 15
Major requirements: Art and Design 200, 201, 202, 203, 204 or 205 or 206, 300-6, 301a, 301b, 301c, 302a or 302b or 302c, 389, 401a, 401b, 401c	54

Art and Design history electives: 300- or 400-level	9
Studio art electives	16
Total	135

ART MAJOR—PRINTMAKING SPECIALIZATION

<i>University Core Curriculum Requirements</i>	41
Art and Design 207a should be taken as an approved substitution for the University Core Curriculum fine arts course.	
<i>Requirements for Specialization in Printmaking</i>	(3) + 94
Foundation requirements: Art and Design 100a, 100b, 110, 120, (207a), 207b	(3) + 15
Major requirements: Art and Design 200, 201, 202, 203, 204 or 205 or 206, 300-6, 301a, 302a, 302b, 302c, 389, 402a, 402b, 402c	54
Art and Design history electives: 300- or 400-level	9
Studio art electives	16
Total	135

ART MAJOR—SCULPTURE SPECIALIZATION

<i>University Core Curriculum Requirements</i>	41
Art and Design 207a should be taken as an approved substitution for the University Core Curriculum fine arts course.	
<i>Requirements for Specialization in Sculpture</i>	(3) + 94
Foundation requirements: Art and Design 100a, 100b, 110, 120, (207a), 207b	(3) + 15
Major requirements: Art and Design 200, 201, 203, 204 or 205 or 206, 300-3, 303-9, 389, 403a, 403b, 403c	45
Art and Design history electives: (300- or 400-level)	9
Craft electives	6
Studio art electives	19
Total	135

ART MAJOR—VISUAL COMMUNICATION SPECIALIZATION

<i>University Core Curriculum Requirements</i>	41
Art and Design 207a is to be taken as an approved substitution for the University Core Curriculum fine arts course.	
<i>Requirements for Specialization in Visual Communication</i>	(3) + 94
Foundation requirements: Art and Design 100a, 100b, 110, 120, (207a), 207b.....	(3) + 15
Major requirements: Art and Design 122, 200, 222, 232, 242, 249; one from 302a, 302b or 302c; 322, 327, 332, 339, 372, 422, 429, 452, 472, 489d, Cinema and Photography 225.....	54
Art and Design history electives (300- or 400- level)	6
Electives	19
Total	135

Art Education Curricular Guide (BFA)

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
AD 100a, b	3	3	AD 200-Level Studio.....	6	6
AD 110, 120	3	3	AD 207a,b	3	3
ENGL 101, 102	3	3	ENGL 121 or 204	-	3
HED 101 or PE 101	-	2	Core Humanities	3	-
Core Math	3	-	Core Multicultural	3	-
PSYC 102	3	-	Core Science	3	-
SPCM 101	-	3	HIST 110	-	3
Core Science	-	3	POLS 114	-	3
Total.....	15	17	Total	18	18

THIRD YEAR	FALL	SPRING
AD 200-Level Studio	3	3
AD Studio elective	-	3
AD 308, 318	3	2
AD 328a, 338a	2	2
AD 328b or 338b	1	-
AD Art History elective	3	3
EDUC 311,310	2	2
EDUC 314, 315	2	3
PLB 301i, 303i or		
ZOOL 312i	3	-
Total.....	19	18

FOURTH YEAR	FALL	SPRING
AD Studio elective	8	-
AD Art History elective	3	-
EDUC 308	3	-
EDUC 316	2	-
EDUC 317	2	-
EDUC 401	-	12
Total.....	18	12

Industrial Design Curricular Guide (BFA)

FIRST YEAR	FALL	SPRING
AD 100a, b	3	3
AD 110, 120	3	3
ENGL 101, 102	3	3
Core Math, SPCM 101	3	3
Core Humanities, Soc Sci	3	3
Core Social Science	-	3
Total.....	15	15
THIRD YEAR	FALL	SPRING
AD 313, 363	3	3
AD 323, 383	3	3
AD 333	3	-
AD 337	3	-
AD Craft/Sculpture/Draw	3	3
AD Art History Elective	-	3
Core Science	3	-
Core Integrative Studies	-	3
Electives	-	3
Total.....	18	18

SECOND YEAR	FALL	SPRING
AD 200, 242	3	3
AD 207a,b	3	3
AD 213a,b, AD 263	3	3
AD 253, 223	3	3
Core Health, Humanities	2	3
Core Science, Soc Sci	3	3
Total.....	17	18
FOURTH YEAR	FALL	SPRING
AD 413	3	-
AD 423	3	-
AD 443	-	3
AD 489a	-	3
AD Craft/Sculpture/Drawing... ..	3	3
Art History Elective	3	-
Core Integrative Studies	3	-
Electives	3	7
Total.....	18	16

Visual Communication Curricular Guide (BFA)

FIRST YEAR	FALL	SPRING
AD 100a, b	3	3
AD 110, 120	3	3
ENGL 101, 102	3	3
Core Math	3	-
Core Humanities	3	-
SPCM 101	-	3
Core Social Science	-	3
Total.....	15	15
THIRD YEAR	FALL	SPRING
AD 249	3	-
AD 322	3	-
AD 339	3	-
AD 372	-	3
AD Art History Elective	-	3
CP 225	3	-
AD 302a,b or c	-	3
Core Integrative Studies	3	3
Core Humanities	3	-
Electives	-	4
Total.....	18	16

SECOND YEAR	FALL	SPRING
AD 122, 222	3	3
AD 207a, b	3	3
AD 212, 232	3	3
AD 242 200	3	3
Core Health	2	-
Core Science	3	3
Core Social Science	-	3
Total.....	17	18
FOURTH YEAR	FALL	SPRING
AD 327	3	-
AD 332	3	-
AD 422	3	-
AD 452	3	-
AD 429	-	3
AD 472	-	3
AD 489d	-	3
Art History Elective	-	3
Electives	6	6
Total.....	18	18

Drawing, Painting, Printmaking Suggested Curricular Guide

FIRST YEAR	FALL	SPRING
AD 100a,b	3	3
AD 110,120	3	3
ENGL 101, 102	3	3
Core Mathematics.....	3	-
SPCM 101.....	-	3
Core Humanities.....	-	3
Core Social Science	3	-
Total.....	15	15

SECOND YEAR	FALL	SPRING
AD 20X, 30X ¹	3	3
AD 207a,b.....	3	3
AD studio.....	3	3
Core Health	2	-
Core Science.....	3	3
Core Social Science	3	-
Core Humanities.....	-	3
Core Integrative Studies	-	3
Total.....	17	18

THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
AD 30X ¹	3	6	AD 40Xa,b ¹	6	6
AD 389	-	3	AD 40Xc ¹	3	3
AD Studio	9	9	AD Art History Elective	3	3
AD Art History Elective	3	-	AD Studio	5	5
Core Integrative Studies	3	-			
Total	18	18	Total	17	17

¹ X=0 for drawing; 1 for painting; 2 for printmaking

Ceramics, Metalsmithing, Fibers/Weaving Suggested Curricular Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
AD 100a,b, AD 110	6	3	AD 120, AD Studio	3	3
AD 20X ¹	-	3	AD 207a,b	3	3
ENGL 101, 102	3	3	AD 30Xa,b	3	3
Core Mathematics	3	-	Core Health	2	-
SPCM 101	-	3	Core Science	3	3
Core Humanities, Soc Sci	3	3	Core Soc Sci, Humanities	3	3
			Core Integrative Studies	-	3
Total	15	15	Total	17	18
THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
AD 40Xa,b	3	6	AD 40Xd	6	-
AD 389	-	3	AD 40Xc	3	3
AD Studio	9	9	AD Art History Elective	3	3
AD Art History Elective	3	-	AD Studio	5	11
Core Integrative Studies	3	-			
Total	18	18	Total	17	17

¹X=4 for ceramics; 5 for metalsmithing; 6 for fibers/weaving

Sculpture Suggested Curricular Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
AD 100a,b	6	-	AD 303	3	3
AD 110	-	3	AD 207a,b	3	3
AD 203	-	3	AD studio	3	3
ENGL 101, 102	3	3	Core Health	2	-
Core Mathematics	3	-	Core Science	3	3
SPCM 101	-	3	Core Social Science	3	-
Core Humanities	-	3	Core Humanities	-	3
Core Social Science	3	-	Core Integrative Studies	-	3
Total	15	15	Total	17	18
THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
AD 303, 403a	3	6	AD 403b	6	6
AD 389	-	3	AD 403c	3	3
AD Studio	9	9	AD Art History Elective	3	3
AD Art History Elective	3	-	AD Studio	5	11
Core Integrative Studies	3	-			
Total	18	18	Total	17	17

Bachelor of Arts Degree, College of Liberal Arts

A student majoring in art with a specialization in art history, art education, or general studio should select the specialization by the end of the sophomore year.

ART MAJOR – ART HISTORY SPECIALIZATION

University Core Curriculum Requirements	41
Art and Design 207a should be taken as an approved substitution for the University Core Curriculum fine arts course.	
College of Liberal Arts Requirement	8
Foreign Language	8
Requirements for Specialization in Art History	(3) + 71
Foundation requirements: Art and Design 100a, 100b, 110, (207a), 207b	(3) + 12
Major requirements: Art and Design 327, 347, 357, 407, 417, 427, 437, 478, 489b	30
Art History electives: twelve hours from Art and Design 447, 448,	

457, 458, 467, 468, 477, 488 or 497	12
Liberal Arts electives	17
To be chosen from philosophy, history, anthropology, classical studies, foreign languages, religious studies, or other courses approved by the School of Art and Design	
Total	120

Art History Suggested Curricular Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
AD 100a,b or 110.....	3	3	AD 100a,b or 110.....	3	-
ENGL 101, 102	3	3	AD 207a,b.....	3	3
Core Mathematics.....	3	-	Foreign Language	4	4
SPCM 101	-	3	Core Humanities	3	-
Core Health	2	-	Core Science, Core Soc Sci	3	3
Core Humanities, Core Science .	3	3	Core Integrative Studies	-	6
Core Social Science	-	3			
Total.....	14	15	Total.....	16	16
THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
AD 327	3	-	AD 417.....	3	-
AD 347	-	3	AD 427.....	3	-
AD 478	3	-	AD 437.....	-	3
Liberal Arts Electives	6	6	AD 489b.....	3	3
AD 347	-	3	Art History Elective.....	3	6
AD 407	-	3	Liberal Arts Electives	2	3
Art History Elective.....	3	-			
Total.....	15	15	Total.....	14	15

ART MAJOR—GENERAL STUDIO SPECIALIZATION

University Core Curriculum Requirements	41
Art and Design 207a should be taken as an approved substitution for the University Core Curriculum fine arts course.	
College of Liberal Arts Requirement	8
Foreign Language	8
Requirements for Specialization in General Studio	(3) + 71
Foundation requirements: Art and Design 100a, 100b, 110, 120, (207a), 207b	(3) + 15
Major requirements: Five courses from Art and Design 200, 201, 202, 203, 204, 205, 206, 213, 214 or 222	15
300 and 400-level studio courses in at least three disciplines	24
AD 400c, 401c, 402c, 403c, 404c, 405c or 406c	3
Art and Design history electives (300- or 400- level).....	6
Liberal Arts electives (at least 4 credits must be 300- or 400-level)	8
Total	120

General Studio Suggested Curricular Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
AD 100 a,b	3	3	AD Studio	6	6
AD 110, 120	3	3	AD 207a,b.....	3	3
ENGL 101, 102	3	3	Core Health	2	-
Core Mathematics.....	3	-	Core Humanities.....	-	3
Core Humanities.....	3	-	Foreign Language	4	4
SPCM 101.....	-	3			
Core Science	-	3			
Total.....	15	15	Total.....	15	16
THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
AD Studio	6	6	AD Studio	9	9
AD Art History Elective	3	3	Core Integrative Studies	3	-
Core Sci, Integrative Studies	3	3	Liberal Arts Electives	3	5
Core Social Science	3	3			
Total.....	15	15	Total.....	15	14

**Bachelor of Arts Degree, College of Liberal Arts or
Bachelor of Science Degree, College of Education**

ART MAJOR – ART EDUCATION SPECIALIZATION

<i>University Core Curriculum Requirements</i>	41
To include SPCM 101; ENGL 101, 102; MATH 110 OR 113; PHYS 101, GEOL 110 or CHEM 106; PLB 115, 117, or ZOOL 115; PLB 301i 303i, or ZOOL 312i; POLS 114; AD 207a; HIST 110; ENGL 121 or 204; AD 227, ANTH 202, ENGL 205, HIST 202, 210, LING 201, PHIL 211 or SOC 215; HED 101 or PE 101.	
<i>Requirements for Specialization in Art Education</i>	(3) + 55
Foundation requirements: Art and Design 100a, 100b, 110, 120, (207a), 207b	(3) + 15
Studio requirements: Art and Design 201, 203, 204, 205, 202 or 206	15
Art education requirements: Art and Design 308, 318, 328a, 338a, 328b or 338b	10
Art and Design history electives: 300- or 400-level	6
Studio Art and Design electives	6
Psychology 102	3
<i>Professional Education Requirements</i>	28
See Teacher Education Program, College of Education.	
<i>Total</i>	124

Art Education Suggested Curricular Guide

FIRST YEAR		FALL	SPRING	SECOND YEAR		FALL	SPRING
AD 100a,b	3	3	3	AD 200-Level Studio.....	6	6	6
AD 110, 120.....	3	3	3	AD 207a,b.....	3	3	3
ENGL 101, 102.....	3	3	3	HED 101 or PE 101.....	2	-	-
Core Mathematics.....	3	-	-	ENGL 121 or 204	-	3	3
PSYC 102.....	3	-	-	Core Humanities	3	-	-
SPCM 101.....	-	3	3	HIST 110.....	-	3	3
Core Science.....	-	3	3	Core Science.....	3	-	-
<i>Total</i>	15	15	15	POLS 114.....	-	3	3
				<i>Total</i>	17	18	18
THIRD YEAR		FALL	SPRING	FOURTH YEAR		FALL	SPRING
AD 200-Level Studio	3	-	-	AD Studio Elective.....	3	-	-
AD Studio Elective	-	3	3	AD 328a.....	2	-	-
AD 308, 318.....	3	2	2	Art History Elective	3	-	-
AD 338a,b	-	3	3	EDUC 316.....	2	-	-
AD 458.....	3	-	-	EDUC 317.....	2	-	-
Core Multicultural	3	-	-	EDUC 308.....	3	-	-
EDUC 311, 310	2	2	2	EDUC 401.....	-	12	12
EDUC 314, 315	2	3	3				
PLB 301i, 303i or ZOOL 312i	-	3	3				
<i>Total</i>	16	16	16	<i>Total</i>	15	12	12

Minor

A total of 21 hours is required for the minor. The student must complete Art and Design 100a, 100b, 207a and 207b for 12 hours and may then elect studio or art history courses for the remaining nine hours.

DESIGN MAJOR

Bachelor of Arts Degree, College of Liberal Arts

A student majoring in design should select one of the following specializations by the end of the sophomore year.

DESIGN MAJOR-GENERAL DESIGN SPECIALIZATION

University Core Curriculum Requirements	41
Art and Design 207a is to be taken as an approved substitution for the University Core Curriculum fine arts course.	
College of Liberal Arts Requirement	8
Foreign language	8
Requirements for Specialization in General Design	(3) + 71
Foundation requirements: Art and Design 100a, 100b, 110, 120, (207a), 207b	(3) + 15
Major requirements: Art and Design 209, 213, 222, 242, 249, 253, 332, 333, 337, 339, 429, 463, 489c	42
Art and Design elective: 300- or 400-level, including industrial design or visual communication course	3
Electives: 300- or 400-level	11
Total	120

General Design Curricular Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
AD 100a, b	3	3	AD 207a, b	3	3
AD 110, 120	3	3	AD 209	-	3
ENGL 101, 102	3	3	AD 213 or 222	3	-
Core Mathematics	3	-	AD 253 or 242	3	-
Core Humanities	3	-	AD 242 or 249	-	3
SPCM 101	-	3	Core Health, Humanities	2	3
Core Science	-	3	Foreign Language	4	4
Total	15	15	Total	15	16
THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
AD 222 or 213, AD 249 or 332 ...	3	3	AD 332 or 333	3	-
AD 333 or 253	3	-	AD 339 or 337	3	-
AD 337 or 339	3	-	AD 463, AD 429	3	3
AD 3XX or Elective	-	6	AD 489c	3	3
Core Science	3	-	Elective or 3XX	3	-
Core Social Science	3	3	Core Integrative Studies	-	3
Core Integrative Studies	-	3	Electives	-	5
Total	15	15	Total	15	14

DESIGN MAJOR-INDUSTRIAL DESIGN SPECIALIZATION

University Core Curriculum Requirement	41
Art and Design 207a should be taken as an approved substitution for the University Core Curriculum fine arts course.	
College of Liberal Arts Requirement	8
Foreign Language	8
Requirements for Specialization in Industrial Design	(3) + 71
Foundation requirements: Art and Design 100a, 100b, 110, 120, (207a), 207b	(3) + 15
Major requirements: One course from Art and Design 203, 204, 205 or 206; 213, 223, 253, 313, 323, 333, 337, 383, 413, 423, 443, 489	45
Art and Design history electives	6
Approved electives	5
Total	120

Industrial Design Suggested Curricular Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
AD 100a or b	3	3	AD 207a,b	3	3
AD 110, 120	3	3	AD 213a,b	3	-
ENGL 101, 102	3	3	AD 223	-	3
Core Mathematics	3	-	AD 253	3	-
Core Humanities	3	-	Foreign Language	4	4
SPCM 101	-	3	Core Science, Social Science	3	3
Core Social Science	-	3	Core Humanities	-	3
Total	15	15	Total	16	16

THIRD YEAR			FOURTH YEAR		
	FALL	SPRING		FALL	SPRING
AD 313	3	-	AD 337	3	-
AD 323	3	-	AD 413	3	-
AD 333	3	-	AD 423	3	-
AD 383	-	3	AD 443	-	3
AD Art History Elective	-	3	AD 489a	-	3
Core Science	3	-	Art History Elective	-	3
Core Health	-	2	Core Integrative Studies	3	3
AD Craft/Sculpture	3	-	Electives	3	2
Core Social Science	-	3			
Total	15	14	Total	15	14

DESIGN MAJOR – VISUAL COMMUNICATION SPECIALIZATION

University Core Curriculum Requirements	41
Art and Design 207a should be taken as an approved substitution for the University Core Curriculum fine arts course.	
College of Liberal Arts Requirement	8
Foreign Language	8
Requirements for Specialization in Visual Communication	(3) + 71
Foundation requirements: Art and Design 100a, 100b, 110, 120, (207a), 207b	(3) + 15
Major requirements: Art and Design 122, 222, 232, 242, 249, 302a or 302b or 302c, 322, 339, 372, 422, 429, 452, 472, Cinema and Photography 225	42
Art and Design history electives (300- or 400- level)	6
Approved electives	8
Total	120

Visual Communication Suggested Curricular Guide

FIRST YEAR			SECOND YEAR		
	FALL	SPRING		FALL	SPRING
AD 100a or b	3	3	AD 122	3	-
AD 110, 120	3	3	AD 207a,b	3	3
ENGL 101, 102	3	3	AD 222, 232	3	3
Core Mathematics	3	-	AD 249	-	3
Core Humanities, Social Sci	3	3	Foreign Language	4	4
SPCM 101	-	3	Core Social Science	3	-
			Core Health	-	2
Total	15	15	Total	16	15
THIRD YEAR			FOURTH YEAR		
	FALL	SPRING		FALL	SPRING
AD 242 or CP 225	3	3	AD 302a, b or c	3	-
AD 322	3	-	AD 422	3	-
AD 339	3	-	AD 452	3	-
AD 372	-	3	AD 429	-	3
Art History Elective	-	3	AD 472	-	3
Core Humanities	3	-	Art History Elective	3	-
Core Science	3	3	Electives	-	5
Core Integrative Studies	-	3	Core Integrative Studies	3	3
Total	15	15	Total	15	14

Courses (AD)

- 100A-3 Two-Dimensional Design.** [IAI Course: ART 907] A fundamental design class dealing with two-dimensional concepts and materials. Emphasis will be placed on design problems which will develop perceptual skills and critical judgment. Studio fee \$3. Incidental expenses not to exceed \$50.
- 100B-3 Three-Dimensional Design.** [IAI Course: ART 908] A fundamental design class dealing with three-dimensional design concepts and materials. Emphasis will be placed on design problems which will develop perceptual skills and critical judgment. Studio fee \$10. Incidental expenses not to exceed \$30.
- 101-3 Introduction to Art.** (University Core Curriculum) [IAI Course: F2 900] A course in the comparative study of visual art in the history of civilizations. The course, using slide lectures, studio labs taught by graduate assistants, reading in textbooks, and examinations, raises the student's familiarity, and practical knowledge of formal, social and critical issues germane to the visual arts. The course's pedagogical method is inclusive of diverse cultures and traditions by means of comparative and thematic analysis.
- 110-3 Introduction to Drawing I.** [IAI Course: ART 904] Designed to help the student experience the concepts

and processes that constitute the language of graphic expression. The goal is a working understanding of the still life. Studio fee \$5. Incidental expenses not to exceed \$50.

120-3 Introduction to Drawing II. [IAI Course: ART 905] Designed to help the student experience the concepts and processes that constitute the language of graphic expression. The goal is a working understanding of inanimate and animate forms in space. Studio fee \$5. Incidental expenses not to exceed \$50. Prerequisite: C or better in 110.

122-3 Drawing for Communication. An introduction to graphic thinking and the visualization of ideas using the materials, tools and techniques employed in design. Students will develop skills and knowledge necessary to effectively think and communicate using pencils, markers and mixed media. Recommended prerequisite: C or better in 110.

200-3 Introduction to Drawing III. [IAI Course: ART 906] Concerned with the introduction to various media, compositional devices, spatial investigation, and the human figure. Studio fee \$30. Incidental expenses not to exceed \$75. Prerequisite: C or better in 120.

201-3 Introduction to Painting. [IAI Course: ART 911] Emphasizing material, techniques, processes, and ideas fundamental to the discipline of painting. Studio fee \$5. Incidental expenses not to exceed \$100. Prerequisite: C or better in 100a, b, 110, 120.

202-3 Introduction to Printmaking. [IAI Course: ART 914] Lectures and films on the basic printmaking processes: relief, intaglio, plano graphic, stencil, and cast paper. Emphasis on studio lab work in relief and intaglio, printmaking processes. Studio fee \$35. Incidental expenses not to exceed \$35. Prerequisite for art majors: C or better in 100a, b, 110, 120.

203-3 Beginning Sculpture. [IAI Course: ART 913] Emphasis experience in materials, techniques, processes, and ideas fundamental to the discipline of sculpture. Studio fee \$35. Incidental expenses not to exceed \$25. Prerequisite: C or better in 100a, b.

204-3 Beginning Ceramics. [IAI Course: ART 912] Introduction to ceramic forming techniques of hand building and throwing on the potter's wheel. Students will explore traditional methods of ceramic form construction and will develop fundamental building skills through dialogue, projects, and problem-solving experiences. Studio fee \$39. Incidental expenses not to exceed \$15. Prerequisite: C or better in 100a, b.

205-3 Beginning Jewelry and Metalsmithing. [IAI Course: ART 915] An introduction to the fundamental skills and technology of jewelry and metalsmithing through practical experience. The properties of the medium will be explored and a survey of the field will be made. Studio fee \$30. Incidental expenses not to exceed \$10. Prerequisite: C or better in 100a, b.

206-3 Beginning Fibers. [IAI Course: ART 916] A studio course providing experience in the material, techniques, processes, and ideas in basic dyed, printed, stitched, and non-loom fibers. Emphasis will be on the expressive use of the two- and three-dimensional qualities of fibers. Studio fee \$50. Incidental expenses not to exceed \$50. Prerequisite: C or better in 100a, b.

207-6 (3,3) Introduction to Art History. Introduction to the scope, methods, and subject matter of art history as a discipline. Emphasis in methodology and problem solving. (a) [IAI Course: F2 901, ART 901] Covers ancient, medieval, Renaissance and non-European art. (b) [IAI Course: ART 902] Covers Baroque, Rococo, Nineteenth Century and modern art. Prerequisite: C or better in 207a or consent of instructor.

209-3 Innovation for the Contemporary Environment. A variety of factors affecting creative individual and small group problem solving and its relevance to the contemporary environment are explored in theory and in practice. Purchase of book \$4.50.

212-3 Introduction to Type for Visual Communication. An introduction to type and its technical aspects as it applies to design, art and computer-aided design. Emphasis will be on type indication, language, recognition, technique, style and problem-solving using type as a design tool in a variety of different types of design projects. Studio fee: \$20. Prerequisite: C or better in 100a and 100b.

213-1 to 3 (2,1) Basic Materials and Processes. (a) An introduction to theory and practice of industrial design. Lectures on the fundamental techniques, tools and skills used to manipulate a wide range of materials in the fabrication of industrial design models. Must be taken concurrently with 213b. Prerequisite: C or better in 100a and 100b. (b) A laboratory for learning through demonstration and exercise in basic hand and power tool operation. Emphasis on developing safe work habits and crafting high quality objects. Mechanical drawing and model-making techniques are demonstrated and practiced. Must be taken concurrently with 213a. Laboratory fee: \$10. Prerequisite: C or better in 100a and 100b.

214-3 Introduction to Stained Glass. Practical application of basic techniques of stained glass design and construction to include cartoon making, leading, foiling, pattern cutting, and soldering. Studio fee: \$45. Prerequisite: 100a, 100b, 107, 110, and 120 or consent of instructor.

219-2 to 18 Workshop. Workshop experience in specific studio and academic disciplines: (a) drawing, (b) painting, (c) watercolor, (d) printmaking, (e) sculpture, (f) ceramics, (g) glass, (h) fibers, (i) metals, (j) art education, (k) art history, (l) papermaking. Studio fee \$3 to \$50, depending on course discipline. Each topic restricted to two hours per section.

222-3 Type as Image. An introduction to skills, techniques and design as it relates to typography. The skills and techniques include sketching and drawing letterforms, and preparing typographic, rough, and comprehensive layouts, as well as type specification. A general knowledge of type categories and visual techniques used to complement and enhance typographic messages is emphasized. Studio fee: \$20. Prerequisite: C or better in 100a and 100b.

223-3 Rendering and Graphics. An introduction to the techniques and materials used by industrial designers to two-dimensionally represent three-dimensional conceptual ideas. Students develop skills in drawing and rendering with pencils, markers, pastels, and airbrush. Emphasis is placed on understanding the significance of color and graphic applications for industrial design. Prerequisite: 213a,b.

227-3 History of African American Art. (University Core Curriculum) [IAI Course: F2 906D] A history of African American visual arts, with a brief examination of the arts of various nations of Africa and how they affected art in America. Craft arts, architecture, painting and sculpture will be considered from the slave trade era to the Civil War era; the Harlem Renaissance and other 20th Century movements to the present day.

232-3 Graphic Reproduction. [IAI Course: ART 918] An introduction to the tools, skills, techniques and methods used by designers to insure proper preparation of image and text for reproduction. The course covers fundamentals of the printing production process; including mechanical preparation, sizing and scaling, paper and color specification, and the integration of typography into the process. Studio fee: \$20. Prerequisite: 100a, 100b and 222 with a grade of C or better.

237-3 Meaning in the Visual Arts. [IAI Course: F2 900] Designed to provide students with a broad understanding of the history and meaning of art and its relevance to contemporary culture. Emphasis is placed upon interdisciplinary concerns, the environment and contemporary social issues. More detailed in historical content than 227 and is an approved substitution for 101.

242-3 Introduction to Computer Graphics. [IAI Course: ART 919] Introduction to the use of the computer in the production of graphic images. Topics include the definition of two- and three-dimensional data, the generation of engineering and perspective images and animation.

249-3 Two- and Three-Dimensional Presentation. An introduction to the basic knowledge, skills, methods and materials utilized by the practicing designer to effectively present and communicate visually and verbally a design concept in two- and three-dimensional form. Development of traditional skills and knowledge. Emphasis on exposure to computer technology necessary to effectively plan, develop, and fabricate boards, models, and mockups in order to present concepts according to professional design standards. Prerequisite: C or better in 213 or 222.

253-3 Human Factors. An introduction to basic human-machine concepts specifically oriented to design students. Subjects include sensory and motor processes, space and arrangement, and environmental factors in design.

257-1 to 30 Work Experience. Credit for concurrent or non-structured work performed which is related to the student's educational objective. Credit to be granted by department evaluation. Mandatory Pass/Fail.

258-1 to 30 Work Experience. Credit for past work performed which is related to the student's educational objective. Credit to be granted by departmental evaluation. No grade for past work experience.

263-3 Materials and Methods. Exploration of methods, tools, and materials for developmental prototyping. Prerequisite: C or better in 213.

300-9 (3,3,3) Intermediate Drawing. Intermediate figure drawing, a studio orientation to drawing the figure. Included in the course are: materials and methods pertinent to drawing the figure; an historical perspective regarding the figure in art; and problems relative to human figuration in drawing. Studio fee: \$50. Incidental expenses not to exceed \$50 for each section. Prerequisite: C or better in 200.

301-9 (3,3,3) Intermediate Painting. (a) Oil painting emphasizing the figure. Studio fee: \$50. Prerequisite: C or better in 201. (b) aqueous medium emphasized. Studio fee: \$5. Prerequisite: C or better in 201. (c) beginning individual problem solving. Studio fee: \$5. Prerequisite: C or better in 301a,b. Incidental expenses not to exceed \$100 for each section.

302A-3 Beginning Etching. Introduction to the basic processes of intaglio printmaking, including etching, aquatint, engraving, and drypoint. Emphasis will be placed on black and white printing. Studio fee \$40. Incidental expenses not to exceed \$50.

302B-3 Beginning Lithography. Introduction to the history and basic processes of lithography, including use of stone and plate. Emphasis will be on black and white printing. Studio fee \$40. Incidental expenses not to exceed \$45.

302C-3 Beginning Silkscreen. Introduction to the basic processes and history of silkscreen; including construction of screen and hand and photographic stencil-making techniques. Studio fee \$45. Incidental expenses not to exceed \$45.

302D-3 Beginning Woodcut. Introduction to the basic processes and history of woodcut printmaking; including single color (block) printing, reduction printing, multiple block printing and intaglio/relief printing.

303-9 (3,3,3) Intermediate Sculpture. A studio orientation to tools, techniques, materials, and problems involved in historical and contemporary sculpture. Metal fabrication, figure, wood and stone carving, and plaster fabrication will be emphasized. Studio fee: contingent upon type of materials used by student. Incidental expenses not to exceed \$50. Prerequisite: C or better in 203.

304-6 (3,3) Intermediate Ceramics. (a) Focuses on structured problems designed to encourage the student to apply basic forming skills experienced at the introductory level. Pottery shapes requiring singular and multiple form components will be investigated and simple glazing techniques will be introduced. (b) Stresses studio problems of a group nature and introduces glaze calculation as both theory and a practical tool. Personal and creative interpretation of assignments; some problems requiring group effort. Must be taken in a, b sequence. Studio fee: \$50. Incidental expenses not to exceed \$10 for each section. Prerequisite: C or better in 204.

305-6 (3,3) Intermediate Metalsmithing. (a) Exploration of various processes emphasizing the diversity of the technical possibilities within the discipline of metalsmithing. (b) Emphasis placed on the use of these processes to develop individual styles. Studio fee \$30. Incidental expenses not to exceed \$25 for each section. Prerequisite: C or better in 205.

306-6 (3,3) Intermediate Fibers. (a) Introduction to weaving; simple and floor looms; work in spinning, dyeing, stitching, printing, and non-loom fibers is encouraged. Studio fee: \$50. (b) Continued work in weaving and dyeing with emphasis on double weave, sculptural fibers, and warp and weft ikat. Emphasis on personal expression, craftsmanship, and imagery. Studio fee \$50. Prerequisite: 206 with a grade of C or better.

308-3 Theories and Philosophies of Art Education. Students develop an understanding of the major art issues in art education through examining theories and philosophies of art education. Areas of focus include trends in art education, child development in art, perceptual and psychological development, learning theory, and teaching methods. Requirements include extensive reading and preparation of a major paper. Partially satisfies the College of Liberal Arts Writing-Across-the-Curriculum requirement for art majors.

309-1 to 12 Independent Study. To be used by majors in the School of Art and Design to pursue independent research activities. Prerequisite: completion of all foundation courses, 3.0 grade point average, major in the School of Art and Design, and consent of instructor.

313-3 Computer-Aided Industrial Design. A computer laboratory course focused on learning and utilizing two- and three-dimensional data, drawing and modeling software and applications in the industrial design process. Includes: programming theory, 3-D modeling, design for manufacturing assembly and disassembly, product planning, graphics, detailing, assembly drawings, and bill of materials. Prerequisite: C or better in 263. To be taken concurrently with 333.

314-3 Intermediate Glass. A course designed to introduce the student to alternative forming techniques using glass as an artistic medium. Class assignments will develop projects that will explore the use of fusing, slumping and casting, and their roles in helping to create two- and three-dimensional artistic expressions in glass. Prerequisite: 214 or consent of instructor.

317I-3 Interdisciplinary Studies in Art. (University Core Curriculum) Specific aspects of the history of art are compared with aspects of our contemporary society. In alternate years, the course will treat different studies, e.g., "Contemporary Native American Art and Artists," "Women in the Visual Arts," and "Mythology in Art."

318-2 Curriculum Development in Art Education. Prepares students to organize art resources, materials, and concepts into effective art learning experiences. The focus is on integrating art concepts from art history, aesthetics, criticism, etc., with studio methods and techniques. Requirements include extensive reading, the preparation of a position paper on teaching art, and developing a curriculum document. Partially satisfies the College of Liberal Arts Writing-Across-the-Curriculum requirement for art majors.

319-3 Art Studio for Non-Majors. General studio for the non-art major. Studio fee \$15 to \$40. Incidental expenses will be at least \$10 per semester.

322-3 Publication Design. Introduction to real-world visual communication issues, needs and problems in the designing and sequencing of pages and publications requiring the configuring of text and image for multiple reproductions. Students are involved with exploration, experimentation and use of traditional and computer methods and technologies in the development of designed solutions for publication. Studio fee \$10. Prerequisite: C or better in 222, 232, 249.

323-3 Industrial Design Analysis. An introduction to product evaluation techniques, such as human engineering, consumer safety, environmental impact, design liability, and patent protection. Prerequisite: C or better in 253, junior standing.

327-3 Esthetics. General survey of historical and contemporary philosophies of the beautiful with particular emphasis upon their relation to visual works of art and individual student research leading to the organization and presentation of a personal esthetic concept. Prerequisite: 207b or consent of instructor.

328A-2 Art Education Methods: Elementary. Lecture and studio. Prepares students to teach children the fundamentals of art production. Areas of focus include teaching strategies and methods, art processes and techniques, and the appropriate use of tools and materials. Studio fee \$10. Incidental expenses not to exceed \$15.

328B-1 Internship Laboratory. Observation and pre-teaching experiences in educational settings.

332-3 Computer Graphics. Advanced-level computer graphics in two-dimensional design and an introduction to three-dimensional design and animation. Oriented toward solving practical design problems using computers and graphical software. Prerequisite: 242 or consent of instructor.

333-3 Advanced Technology in Industrial Design. An examination of the technological concepts and innovations required by state-of-the-art automation, robotics, electronic media and smart appliances. Principles of measurement, electronics, mechanics, fluids, microprocessors, systems integration and human interfaces are examined through hands-on investigation and evaluation of products of the past and present with discussions of the future. Prerequisite: C or better in 263.

337-3 History of Industrial Design. Introduction to the history of industrial design, surveying significant trends and examining the variety of forces, social, economic and political, that have shaped its forms and characterized its human role. Prerequisite: 207a,b.

338A-2 Art Education Methods: Secondary. Lecture and studio. Prepares students to teach adolescents the fundamentals of art production. Areas of focus include teaching strategies and methods, art processes and techniques, and the appropriate use of tools and materials. Studio fee \$10. Incidental expenses not to exceed \$15.

338B-1 Internship Laboratory. Observation and pre-teaching experiences in educational settings.

339-3 Survey of Design. An examination of designing throughout the ages emphasizing the role of visual forms of public communication; such as, advertising, promotions, packaging publication, exhibition and informational graphics. A review of artifacts, systems, designers, process, materials and methodologies in relation to technological, scientific and cultural movements of the past and present. Implications for the future are included. Prerequisite: 207a,b.

347-3 Survey of 20th Century Art. A survey of the major developments in painting, sculpture, architecture, and other selected areas of the visual arts from the beginning of the 20th Century to the present. These developments are examined in relation to other significant cultural, scientific, and philosophical events of the 20th Century. Prerequisite: 207b or consent of instructor.

348-3 Studio Art for Elementary Teachers. Lecture and studio for non-art majors. Especially applicable to pre-

school and K-6 grades. Introduction to uses and applications of art media, approaches to teaching and artistic awareness, concept development, creative expression, appreciation, art judgment, and knowledge of our art heritage. Studio fee \$10. Incidental expenses not to exceed \$15.

357-3 19th Century Art. Survey of painting, sculpture, and architecture in Europe from the French Revolution to the end of the century. Includes such major stylistic movements as Neoclassicism, Romanticism, Realism, Impressionism, Post-Impressionism, and the roots of modern art. Prerequisite: 207b or consent of instructor.

363-3 Product Development. Investigation and identification of significant product related human need areas. Application of development methodologies in selected product design projects. Studio fee: \$10. Prerequisite: C or better in 323 and to be taken concurrently with 383.

372-3 Promotion and Data Design. Students, with faculty, identify issues, needs and problems in the areas of promotions and quantitative and comparative data design. Students use the design process in conjunction with traditional materials and computer technology to develop viable visual communication solutions. They learn to conduct research and to use critical and creative thinking to develop an imaginative, appropriate, functional solution. Students also further develop their evaluation and assessment skills. Prerequisite: C or better in 322.

383-3 Practicum in Industrial Design. Advanced comprehensive product design projects developed into production prototypes. Prerequisite: C or better in 323 and to be taken concurrently with 363.

388-1 to 36 Study Abroad. Provides credit toward the undergraduate degree for study at an accredited foreign institution or approved overseas program. Final determination of credit is made on the student's completion of work. Prerequisite: one year of residence at this university, good academic standing, and prior approval of the department.

389-3 BFA Seminar. Class helps prepare BFA majors for life after school in the art world. Portfolio enhancement covered; work on resume, autobiographical, aesthetic and educational statements. Slide quality and gallery discussions also covered. Partially satisfies the College of Liberal Arts Writing-Across-the-Curriculum requirement for art majors.

400-3 to 33 (3 to 6, 3 to 6, 3 to 6, 3 to 15) Advanced Drawing I. (a) Figure drawing. Not for graduate credit. Prerequisite: 9 hours of 300 with a grade of C or better. (b) Individual research. Not for graduate credit. Prerequisite: 6 hours of C or better in 400a. (c) Senior thesis. Not for graduate credit. Prerequisite: 6 hours of C or better in 400b. (d) Independent study in drawing. Prerequisite: for undergraduates, 6 hours of C or better in 400b; for graduates, consent of major adviser. Studio fee: for a and b, \$70; for d, \$5. Incidental expenses may exceed \$100 for each section.

401-3 to 33 (3 to 6, 3 to 6, 3 to 6, 3 to 15) Advanced Painting I. (a) and (b) Individual problem solving with emphasis on technical and conceptual synthesis. Not for graduate credit. Prerequisite: for a, 301a, b, c with a grade of C or better; for b, 6 hours 401a with a grade of C or better. (c) Senior thesis. Not for graduate credit. Prerequisite: 6 hours of C or better in 401b. (d) Independent study in painting. Prerequisite: for undergraduates, 6 hours of C or better in 401b; for graduates, consent of major adviser. Studio fee for a, b and d, \$5. Incidental expenses may exceed \$100 for each section.

402-3 to 33 (3 to 6, 3 to 6, 3 to 6, 3 to 15) Advanced Printmaking I. (a) Advanced techniques in printmaking to include intense work in color printing. Not for graduate credit. Prerequisite: C or better in 302-6 hours. (b) Individual research with emphasis on history, processes, and ideas which lead to the formation of personal content. Not for graduate credit. Prerequisite: 6 hours of C or better in 402a. (c) Senior thesis. Not for graduate credit. Prerequisite: 6 hours of C or better in 402b. (d) Independent study in printmaking. Prerequisite: for undergraduates, 6 hours of C or better in 402b; for graduates, consent of major adviser. Studio fee: for a and b: \$60; for d: \$10 per credit hour enrolled. Incidental expenses may exceed \$50 for each section.

403-3 to 33 (3 to 6, 3 to 6, 3 to 6, 3 to 15) Advanced Sculpture I. (a) Foundry techniques and direct metal fabrication. Not for graduate credit. Studio fee: \$48. Prerequisite: C or better in 303-6 hours. (b) Individual research with emphasis on history, materials, processes, and ideas that form personal content. Not for graduate credit. Studio fee: \$48. Prerequisite: 6 hours of C or better in 403a. (c) Senior thesis. Not for graduate credit. Prerequisite: 6 hours of C or better in 403b. (d) Independent study in sculpture. Studio fee: contingent upon type of materials used by the student. Prerequisite: for undergraduates, 6 hours off C or better in 403b; for graduates, consent of major adviser. Incidental expenses may exceed \$75 for each section.

404-3 to 30 (3, 3 to 6, 3 to 6, 3 to 15) Advanced Ceramics I. (a) Assigned individual problems with emphasis on ceramic form and glazing. Not for graduate credit. Prerequisite: C or better in 304-6 hours. (b) Individual research with emphasis on kiln theory and design. Not for graduate credit. Prerequisite: C or better in 404a. (c) Senior thesis. Not for graduate credit. Prerequisite: 6 hours of C or better in 404b. (d) Independent study in ceramics. Prerequisite: for undergraduates, 6 hours of C or better in 404b; for graduates, consent of major adviser. Studio fee: for a, b, and d, \$27 per credit hour enrolled. Incidental expenses may exceed \$20 for each section.

405-3 to 30 (3,3 to 6, 3 to 6, 3 to 15) Advanced Metalsmithing. (a) Emphasis will be placed on advanced processes to develop individual expression. Not for graduate credit. Studio fee: \$30. Prerequisite: C or better in 305a, b. (b) Media exploration to develop individual styles. Not for graduate credit. Studio fee: \$60. Prerequisite: C or better in 405a. (c) Senior thesis. Not for graduate credit. Prerequisite: 6 hours of C or better in 405b. (d) Independent study in metalsmithing. Studio fee: \$10 per credit hour enrolled. Prerequisite: for undergraduates, 6 hours of C or better in 405b; for graduates, consent of major adviser. Incidental expenses may exceed \$75 for each section.

406-3 to 30 (3, 3 to 6,3 to 6, 3 to 15) Advanced Fibers I. (a) Individual design problems. Not for graduate credit. Studio fee: \$50. Prerequisite: C or better in 306b. (b) Individual research with emphasis on the intensive use of fibers as a creative medium. Not for graduate credit. Studio fee: \$100. Prerequisite: C or better in 406a. (c) Senior thesis. Not for graduate credit. Prerequisite: C or better in 406b. (d) Independent study in fibers. Studio

fee: \$17 per credit hour enrolled. Prerequisite: for undergraduates, C or better in 406b; for graduates, consent of major adviser. Incidental expenses may exceed \$75 for each section.

407-3 Ancient Art. Ancient art of the Mediterranean area from the Egyptians to the end of the Roman Empire. A survey of the major cultures, with emphasis upon visual analysis, media and techniques, function, and iconography. Field trip required. Documented research paper on an aspect of ancient art required for graduate credit. Prerequisite: 207a or consent of instructor.

413-3 Professional Practice in Industrial Design. The study of designer/client relationships, business practices, design office procedures, and professional ethics. Not for graduate credit. Prerequisite: C or better in 363, 383 and senior standing or consent of instructor. Partially satisfies the College of Liberal Arts Writing-Across-the-Curriculum requirement for design majors.

414A-3 Glass 1. Beginning course that introduces the student to the forming processes and techniques associated with the blowing of molten glass. This course provides the basic ground work for the development of skills that result in the ability to fashion principally vessel oriented forms on the blowpipe. The student becomes familiar with the working characteristics of hot glass and understands the principles required to control form. Students become aware of acceptable studio behavior and the interdependence of studio equipment and operational systems. Prerequisite: C or better in 314 or consent of instructor.

414B-3 to 18 Advanced Glass. Advanced glass is intended to direct the students attention to issues beyond that of basic studio techniques explored in the introduction to beginning blowing (Art and Design 414a). A body of technical and practical information instrumental in helping the student realize future goals and plans, both academic and professional will be investigated through: seminar topics, design projects and ideas, individual student presentations, individual and group critiques and selected readings. Prerequisite: C of better in 414a.

415-4 A Creative Look at Reclamation Possibilities for Massively Disturbed Land. Presents the possibility that massively disturbed areas can be aesthetic resources if potential inherent in these sites can be recognized and addressed. Seminar/lecture/studio format with selected lectures given by invited speakers. Discussions include recognition of massive land disturbance; reclamation as a concept; environmental art and design; the questions a potential developer or designer of disturbed land should ask and where they might look for expert advice; and group critiques on student studio projects. Studio projects will involve the visualization in two- and three-dimension formats of plans for the reclamation of the students' chosen site with accompanying documentation.

417-3 Medieval Art. Medieval art from the Fourth to the Fifteenth Century in Western Europe. Examination of selected art objects in terms of media and techniques, iconography, function, and cultural milieu. Field trip required. Documented research paper on an aspect of medieval art required for graduate credit. Prerequisite: 207a or consent of the instructor.

422-3 Packaging Design. An introduction to three-dimensional package design, using traditional and computer technologies. Course emphasis is on concept, layout, design and rendering of commercial packaging for products displayed and sold to the consuming public. Students as designers are introduced to real-world packaging and producing portfolio samples that will showcase their conceptual and design skills, expand their design expertise and make themselves more attractive in the job market. Studio fee: \$10. Not for graduate credit. Prerequisite: C or better in 372.

423-3 Research Industrial Design. The objective of this studio course is to develop the student's ability to conduct in-depth product design research and to explore new needs and trends relating design to society. Focus is placed on raising the student's level of design skill and knowledge to the professional level. This senior studio places increasing responsibility on the student to think through their preparation and career direction. Prerequisite: C or better in 363 and 383.

427-3 Renaissance Art. An examination of various topics appropriate to a study of Renaissance art, both Northern and Italian, during the Fifteenth and Sixteenth Centuries in Europe. The emphasis is on a range of art history problems and methods of approach. Field trip required. Prerequisite: 207a or consent of instructor.

429-3 Portfolio. An introduction to all of the tricks, traps and topics an interviewer will pursue during the interview process. Prepares graduating seniors for the cold, hard facts of what is going to happen during the job search, after they get hired and when they get fired. Subjects to include: cover letters, resume, preparing a portfolio, interviewing, corporate structure, dress, money, politics, changing jobs, legal rights, sexual harassment, job leads and how to survive when-and-if you do get hired. Not for graduate credit. Prerequisite: senior standing.

437-3 Baroque and Rococo Art. An examination of various topics appropriate to a study of Baroque and Rococo art in Western Europe. Emphasis upon a range of art historical problems and methods of approach. Field trip required. Prerequisite: Art 207a or b or consent of instructor.

443-3 Professional Practice II. This course is a continuation of 413, Professional Practice I. Focus is placed on portfolio preparation, job search, interviewing techniques and preparation of all documentation required for senior degree project. Not for graduate credit. Prerequisite: C or better in 413. Partially satisfies the College of Liberal Arts Writing-Across-the-Curriculum requirement for design majors.

447-3 Introduction to Museology. A survey of museum and gallery techniques (emphasis upon practical exhibit development) which will involve answering questions concerning contractual agreements, taxes, insurance, packing, shipping, exhibit design and installation, record systems, general handling, public relations, and sale of art works directed toward problems encountered by the artist outside the privacy of the studio. Prerequisite: art major or consent of instructor.

448-3 Art of Tribal Cultures. Covers a broad range of arts of Africa, Native North America, Pre-Columbian America and Oceania, primarily sculpture, textiles, masking and performance, body decoration and textiles, architecture, and ceramics of small-scale village societies.

452-3 Environmental Graphic Design. An introduction to the theory and practice of planning, designing and implementing visual communication in man-made and natural environments. Course involves spatial perception, color, imagery and typography as related to direction, information and decorative systems for the purpose of placemaking and wayfinding. Not for graduate credit. Prerequisite: C or better in 372.

457-3 Women in the Visual Arts. (Same as Women's Studies 427.) Consists of a survey of women's contributions and participation in the visual arts from the middle ages through the Twentieth Century. Through lecture, discussion and research, painting, sculpture, architecture, crafts, film, photography, and other forms of visual art will be covered. Screening fee: \$10.

458-3 African Arts. Covers a broad range of the arts primarily of west and central Africa, as well as north, south, and east Africa. Includes sculpture, masking and performance, body decoration and textiles, and architecture. Shows how arts are used in the daily life of traditional village societies in these areas.

459-1 to 6 Internship. Supervised work experience related to student's academic program and career objectives. Not repeatable for credit. Not for graduate credit. Prerequisite: consent of design area head. Mandatory Pass/Fail.

463-4 Products for Special Populations. Products for special subset groups within greater population norms. May be of cross-cultural and interdisciplinary implementation. Not for graduate credit.

467-3 Critical Issues in Contemporary Art. An examination of the style and meaning of contemporary art in relation to the current political, social, and cultural issues. Will include visual arts, architecture, and communications media. Prerequisite: 207a and b or consent of instructor.

468-3 Pre-Columbian Art. Covers architecture, textiles, pottery, metal, and 2-D arts of Meso-, Central, and South America during the Pre-Columbian era. Also includes hieroglyphic and calendrical systems and some Post-Columbian era arts as well.

472-3 Advertising and Corporate Identification. An introduction to advertising and corporate identity campaigns as they would be executed in a typical advertising agency creative department by art director/writer teams. The student designer will explore creative advertising campaign and corporate-identity projects in both the print and electronic media. Students will be expected to produce portfolio samples using traditional means and computer applications. Samples will showcase students' conceptual and design skills. These skills expand their design expertise and make them more attractive to the job market. Studio fee: \$10. Not for graduate credit. Prerequisite: C or better in 422; senior standing.

477-3 American Art of the Thirties. A socio-political and artistic study of American art during the decade of the Great Depression. Course material will be divided in three parts: (1) a survey of art trends during the Thirties concentrating on traditional art forms such as painting, sculpture, and architecture, (2) an investigation into government-subsidized art programs, and (3) recent governmental and corporate patronage of the arts through such programs as the National Endowment for the Arts. Prerequisite: 207a and b or consent of instructor.

478-3 Topics In American Art. An in-depth examination and discussion of the social, economic, political and cultural changes in American art focusing on such topics as the third millennium, outsider art, folk traditions, and utopian communities, law and the artist, gender, ethnic diversity, art and technology, and other current issues. Prerequisite: 207a,b.

488-3 American Folk Art. Through the viewing of a wide variety of examples of folk and outsider art, this course will explore the creative urge and what behavioral motives; such as, personal, communal, religious, functional, inspires these artists. Prerequisite: 207b or consent of instructor.

489-3 to 6 (3, 3-6, 3-6, 3) Senior Thesis. The culminating experience for majors. (a) Thesis for industrial design. Creative project development individualized by the student with faculty sponsor. Prerequisite: C or better in 423 (b) Art history thesis. A two-semester course designed to provide art history majors with a sustained experience to apply critical art historical methodology to a self-chosen topic. Not for graduate credit. Prerequisite: senior standing. Restricted to majors. Partially satisfies the College of Liberal Arts Writing-Across-the-Curriculum requirement for art majors. (c) Thesis for general design. In-depth design project chosen by the student in consultation with a faculty member. (d) Thesis for visual communication. Individual design project chosen by the student in consultation with a faculty member. Not for graduate credit. Prerequisite: senior standing.

497-3 to 6 (3 per topic) Problems in Art History. A close examination of selected categories of works of art from various periods, media, and cultures as illustrative of particular art historical problems. Topics will vary and include (a) portraiture, (b) landscape and still life, (c) narrative, (d) other selected topics. Sections a through c may be taken only once each, section d may be repeated as topics vary. Art historical perspectives to include formal analysis, iconography, art theory, social history, connoisseurship. Prerequisite: 300-level art history course or consent of instructor.

499-1 to 21 Individual Problems. Art studio course directed toward individual research in the student's major field. Emphasis is placed upon the history, materials, processes, and ideas that form the content and experience of the student's major field. Designed to adapt to students' individual needs in problem research. Prerequisite: senior standing in the School of Art and Design, a 3.0 average, and consent of instructor.

Art and Design Faculty

Abrahamson, Roy E., Associate Professor, Emeritus, Ed.D., Columbia University, 1965.

Addington, Aldon M., Associate Professor, M.F.A., Cranbrook Academy of Art, 1966.

Archer, Richard E., Assistant Professor, M.S., Governors State University, 1979.

Belletire, Steven P., Associate Professor, BFA, University of Illinois, 1971.

Bernstein, Lawrence A., Associate Professor, *Emeritus*, M.F.A., Cranbrook Academy of Art, 1953.

Boysen, Bill H., Professor, M.F.A., University of Wisconsin, 1966.

Briggs, Larry S., Associate Professor, B.F.A., University of Oklahoma, 1956.

Brzyski-Long, Anna W., Instructor, M.A., Washington University, 1992.

Busch, W. Larry, Associate Professor, M.S., Southern Illinois University, 1970.

Chametzky, Peter, Associate Professor, Ph.D., City University of New York, 1991.

Deller, Harris, Professor, M.F.A., Cranbrook Academy of Art, 1973.

Feldman, Joel B., Professor, M.F.A., Indiana University, 1967.

Fink, Herbert L., Distinguished Professor, *Emeritus*, M.F.A., Yale University, 1958.

Gavin, Dawn, Assistant Professor, M.F.A., Duncan of Jordanstone College of Art, 1992.

Gorman, Carma R., Instructor, Ph.D., University of California, Berkeley, 1998.

Greenfield, Sylvia R., Professor, *Emerita*, M.F.A., University of Colorado, 1967.

Jackson, Jed, Associate Professor, M.F.A., Cornell University, 1980.

Keeley, Scott, Assistant Professor, M.F.A., Texas Christian University, 1994.

Kington, L. Brent, Professor, *Emeritus*, M.F.A., Cranbrook Academy of Art, 1961.

Lawson, Elnora, Instructor, *Emerita*, B.Ed., Southern Illinois University Carbondale, 1936.

Lintault, M. Joan, Professor, M.F.A., Southern Illinois University, 1962.

Mavigliano, George J., Associate Professor, *Emeritus*, M.A., Northern Illinois University, 1967.

Mawdsley, Richard, Professor, M.F.A., University of Kansas, 1969.

Montieth, Jerry Carlis, Associate Professor, M.F.A., Cranbrook Academy of Art, 1978.

Onken, Michael O., Associate Professor, M.A., Northern Illinois University, 1966.

Palmer, Erin, Assistant Professor, M.F.A., Yale University, 1993.

Paulson, Robert L., Professor and *Director*, M.F.A., University of Wisconsin, 1967.

Shay, Edward Holden, Professor, M.F.A., University of Illinois, 1971.

Smith, Richard E., Assistant Professor, M.F.A., Southern Illinois University Carbondale, 1992.

Sullivan, James E., Associate Professor, *Emeritus*, M.A., University of California at Los Angeles, 1965.

Sullivan, Milton F., Professor, *Emeritus*, M.A., Columbia University, 1951.

Taylor, Dennis L., Instructor, M.S., Syracuse University, 1994.

Walsh, Thomas J., Professor, M.F.A., University of Michigan, 1962.

Youngblood, Michael S., Associate Professor, *Emeritus*, Ph.D., University of Oregon, 1975.

Zivkovich, Kay M., Assistant Professor, M.F.A., Southern Illinois University Carbondale, 1973.

Asian Studies (Minor)

Asian Studies is a minor offered in the College of Liberal Arts. The Asian studies program includes a variety of courses of the languages, civilizations, and contemporary issues of Asia. The program is intended to prepare a student for a number of career options with Asia interests. Through this program, a student may prepare for more advanced work on another campus, may develop a teaching specialty, or may broaden skills and knowledge which would be useful for professional and occupational interests in Asia.

A minor in Asian studies requires a minimum of 20 hours selected from a list of approved courses. Not more than eight hours may be taken in any one department for credit toward the 20 hours.

Automotive Technology (Major, Courses)

Offering both A.A.S. and B.S. degrees, the Automotive Technology program in the College of Applied Sciences and Arts provides students with an opportunity to obtain a solid foundation of knowledge, experience and skills that will assist in job entry and career advancement in the automotive industry.

Current automotive trends indicate that the automobile will continue to experience changes that include expanded use of electronics and computerized controls for improving engine performance, fuel efficiency, on board diagnostics, exhaust emissions and passenger comfort and safety. These changes will require persons knowledgeable and highly skilled in specialized areas of automotive technology. This program offers the student an opportunity to specialize in chosen automotive subject areas and offers the opportunity to develop technical, communication and supervisory

skills. The student should expect to spend about \$700 for a required basic tool kit consisting of both standard and metric tools and a digital multimeter.

The Automotive Technology program has achieved master certification by the National Institute for Automotive Service Excellence. Instruction is offered in all eight areas of ASE certification—engine repair, automatic transmissions/transaxles, manual drive trains and axles, front end, brakes, electrical systems, heating and air conditioning and engine performance. All graduates are encouraged to complete the certification process by taking the ASE certification tests.

An advisory committee composed of leaders in the automotive field provides additional guidance to the program. Current members include representatives from General Motors and GM divisions, Ford Motor Company, Chrysler Corporation, Toyota Motor Sales, Nissan Motor Corporation, Mitsubishi Motor Sales, Moog Automotive, Electronic Data Systems, NAPA, automotive dealerships and whole-sale/retail outlets.

TWO-YEAR COOPERATIVE EDUCATION PROGRAM

The Cooperative Education Program at Southern Illinois University Carbondale is a two-year automotive program which leads to an Associate in Applied Science degree. The curriculum has been specifically designed by General Motors and the Automotive Technology program at SIUC to advance the technical competence and professional level of beginning dealership technicians. The program not only provides the student with classroom lectures and hands-on laboratory experience on late model vehicles, but also involves working at an employing General Motors dealership under the supervision of dealership personnel.

GENERAL MOTORS AUTOMOTIVE SERVICE EDUCATIONAL PROGRAM (ASEP)

A cooperative work/study program is offered by General Motors, its participating dealers and the College of Applied Sciences and Arts' Automotive Technology program. This associate degree program is two calendar years in length. Final selection for admission to this program is determined by the corporation and its dealers.

Two Year Cooperative Education Program

Requirements for Major in Automotive Technology

Social Science	3
ENGL 101	3
SPCM 101	3
MATH 125 or equivalent	3-4
ASA 126 or equivalent	3-4
Approved Electives	6
AUT 120, 150, 160, 170, 180.....	23
Twenty hours of selected 200- and 300-level Automotive Technology courses	20
<i>Total</i>	64-66

Two Year Cooperative Education Program Curricular Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
AUT 150,170	5	5	Elective (Core or Major)	3	-
AUT 160,180	5	5	AUT 200 or 300 Level	10	10
ENGL 101, Math	3	3	SPCM 101, Physics	3	3
AUT 120,Elect (Core or Major)...	3	3	Core Social Science	-	3
<i>Total</i>	16	16	<i>Total</i>	16	16

BACHELOR OF SCIENCE DEGREE

The Bachelor of Science Degree in Automotive Technology is designed to provide a combination of automotive technical education, computing skills and communication skills along with theoretical and practical knowledge concerning supervision and

management to students interested in careers in the automotive service industry. The program can strengthen previous automotive training received from technical institutes, community college, proprietary institutions, industry-related training programs, and the military. The Capstone option is available to qualified A.A.S. graduates entering the Automotive Technology bachelor degree program as explained in this catalog. Major automotive manufacturers, dealerships and the automotive after-market industry are seeking four-year automotive technology graduates. The number of job titles in the area of automotive technology reflects the nature of a diverse and expanding field. Job titles include district manager in training-service, district manager-service, customer assistance specialist, customer service coordinator, service advisor, dealership service manager, technical training specialist, district manager-sales, zone service manager, field executive, technical writer, field service engineer, and district parts manager. Most of these positions require a four-year degree with skills in communications, management and consumer relations, as well as technical knowledge.

The Automotive Technology program has signed an "Articulation Agreement" with the College of DuPage. This agreement takes full advantage of the Capstone Option discussed in Chapter 3. If you have questions about this agreement, contact the community college advisor or Automotive Technology at (618) 453-2053.

Four-Year Cooperative Education Programs Offered

MOOG COOPERATIVE PROGRAM

Moog Automotive, a division of Cooper Industries, offers a work/study program in conjunction with the SIUC Automotive Technology program. The program is four calendar years in length and leads to a B. S. degree in Automotive Technology. Participants are selected by employer interviews of students currently enrolled in the Automotive Technology Program.

Bachelor of Science Degree, College of Applied Sciences and Arts

AUTOMOTIVE TECHNOLOGY MAJOR

University Core Curriculum	41
Requirements for Major in Automotive Technology	45
(Minimum of 29 hours in 300/400 level courses)	
Major Core Requirements (or Approved Equivalents)	27
AUT 325, 435	7
Twenty hours selected from the following: (Minimum of 10 hours in 300/400 level courses) AUT 280, 285, 290, 295, 320, 360, 370, 380, 390, 430, or 475	20
Support Courses (or Approved Equivalents)	18
Select one course from the following: MGMT 304, 350, ATS 364	3
Select one course from the following: ENGL 291, WED 302, ATS 416	3
Select two courses from the following: ATS 383, 421, ACCT 210, FIN 270, MKTG 304, 350	6
Select one course from the following: AUT 335, CS 200b	3
Select one course from the following: AUT 485, ATS 332, MKTG 305, PSYC 323	3
Approved Technical or Career Electives	34
Total	120

Bachelor of Science Automotive Technology Suggested Curricular Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
AUT 150	5	-	AUT 335 or CS 200b.....	3	-
AUT 160	4	-	Physics	3	-
ENGL 101,102	3	3	SPCM 101	3	-
AUT 120	3	-	AUT 325	4	-
AUT 170	-	5	Core Social Science	3	3
MATH	-	3	AUT 280	-	5
AUT 180	-	4	AUT 285	-	5
<i>Total</i>	15	15	<i>Total</i>	16	13
THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
Core Science	3	-	ATS 364, MGMT 304 or 350	3	-
ATS 416, ENGL 291 or WED 302.....	3	-	Human Health	2	-
MKTG 304	3	-	Interdisciplinary	3	-
Fine Arts	3	-	AUT 435	3	-
Humanities	3	3	ACCT 210	3	-
AUT 290	-	5	AUT 370	-	5
AUT 360	-	5	AUT 380	-	5
AUT 485 or ATS 332.....	-	3	Multicultural	-	3
<i>Total</i>	15	16	ATS 421	-	3
			<i>Total</i>	14	16

Courses (AUT)

120-3 Automotive Electronics. A course of study in the design and theory of DC electrical circuits. Particular emphasis will be placed on the general application of these theories to automotive electrical systems and the proper use of typical electronic and electrical circuit diagnostic equipment.

150-3 to 5 Engine Mechanical Systems. Directed study of automotive internal combustion engine technology. Lectures will emphasize design factors affecting combustion, compression and induction systems, crankshaft and associated bearings, valve trains, lubrication systems and cooling systems. Particular emphasis will be placed on engine inspection and maintenance techniques. Laboratory experience will consist of disassembly of automotive engines, component design study and the inspection and measurement of components.

160-3 to 5 Brake, Steering and Suspension Systems. An introduction to automotive brake system, steering systems and suspension systems. Lectures will describe steering system geometry, brake system component interrelationships and suspension system designs. Special emphasis will be placed on component diagnosis and maintenance procedures. Laboratory experience will provide the opportunity to study the use of specialized tools, computerized wheel balancing machines and computer-based four-wheel alignment equipment.

170-3 to 5 Engine Electrical Systems. Design and operation of automotive storage batteries, starting systems, charging systems and ignition systems. Lectures will emphasize the operational characteristics of these systems and their individual components. Particular emphasis will be placed on battery, starting system, charging system and ignition system diagnosis. Laboratory experience will provide the opportunity to study the use of digital multimeters, automotive ignition system oscilloscopes, specialized starting/charging system test equipment and various electronic diagnostic equipment. Prerequisite: 120, or concurrent enrollment in 120.

180-3 to 5 Drivetrains. A detailed study of automotive manual transmission and transaxle assemblies, drive-shafts, clutch assemblies and four-wheel drive transfer cases, including an introduction to automatic transmission theory and service. Lectures will focus on the basic theory of operation and component design of the automotive drivetrain. Emphasis will be placed on system and component operation and maintenance. Laboratory experience will provide the opportunity to study approved inspection and maintenance procedures.

220-1 to 24 Automotive Cooperative Education. Students will participate in a departmentally approved cooperative education program that includes formal instruction, training and/or career related work experience. Students receive a salary or wages and engage in prearranged assignments related to their academic program and career objectives. Departmental faculty evaluations, cooperating agency students performance evaluations and student reports are required. Hours and credits to be individually arranged. Prerequisite: automotive technology major and consent of department.

258-1 to 30 Automotive Work Experience. A designation for credit granted for past documented automotive work experience related to the student's educational objectives. Credit will be established by departmental evaluation.

259-1 to 60 Automotive Occupational Training. A designation for credit granted for past documented automotive educational experiences related to the student's educational objectives. Credit will be established by departmental evaluation.

275-3 to 5 Diesel Fuel and Electrical Systems. Specialized study of automotive and light truck diesel fuel systems including mechanical and electronic fuel injection. Subject areas include principles of diesel combustion, diesel pump design, diagnosis and engine performance standards. Additional subject areas may include thermal-mechanical and electronically controlled glow plug systems and starting and charging systems. Prerequisite: 120, 150 and 170.

280-3 to 5 Air Conditioning Systems. A study of refrigeration systems, temperature controls and the vacuum and electrical circuits common to automotive air conditioning systems. Emphasis will be placed on the environmental impact of CFC-based refrigerants, CFC recovery and recycling and environmentally safe refrigerant

technology. Laboratory experience will provide the opportunity to study the use of air conditioning system diagnostic tools and refrigerant recovery/recycling equipment. Prerequisite: 120, 170.

285-3 to 5 Body and Chassis Electrical Systems. Studies will focus on the theory of operation of body lighting circuits, instrumentation, wiper systems, cruise control systems, power windows, power seats, power door locks and supplemental inflatable restraints (air bags). Particular emphasis will be placed on electrical circuit diagrams and the development of accepted diagnostic techniques. Laboratory experience will provide the opportunity to study the use of electrical system diagnostic tools and techniques. Prerequisite: 120, 170.

290-3 to 5 Antilock Brake and Suspension Systems. Studies will focus on the theory of operation of brake and suspension systems and their diagnosis and maintenance. Includes the study of computerized antilock brake systems (ABS), including wheel speed sensors, hydraulic control valve operation and traction control. Emphasis will be placed on inspection and maintenance procedures. Laboratory experience will develop diagnostic and maintenance techniques using electronic scan tools, digital multimeters and computerized wheel alignment equipment. Prerequisite: 120, 160 and 170.

295-3 to 5 Engine Service Procedures. Course work designed to develop engine mechanical inspection, maintenance and diagnostic techniques. Emphasis will be placed on analysis of engine component failures and diagnosis of abnormal engine noises. Laboratory experience will consist of using specialized engine service equipment and diagnostic tools. Prerequisite: 120, 150 and 170.

299-1 to 16 Individual Study. Provides students with opportunity to develop a special program of study to fit a particular need not met by other offerings. Each student will work under the supervision of a sponsoring faculty. Prerequisite: approval of the sponsor and departmental chair.

320-1 to 12 Automotive Cooperative Education. Students will participate in a departmentally approved cooperative education program that includes formal instruction, training and/or career-related work experience. Students receive a salary or wages and engage in pre-arranged assignments related to their academic program and career objectives. Department faculty evaluations, cooperating agency student performance evaluations and student reports are required. Cooperative experiences may be in one of the following areas: Automotive technical service; automotive management; automotive service training. Hours and credit to be individually arranged. Prerequisite: consent of department and employment at an approved work site.

325-4 Automotive Service Operations. This course will provide a study of the basic skills needed to manage an automotive service department. Methods to improve customer satisfaction, increase service market penetration and increase profits will be emphasized. Daily planning of work schedules, traffic flow and the efficient use of facilities will be included. Laboratory experience will include simulated retail service management situations. Prerequisite: English 102.

335-3 Computing for Automotive Applications. The successful student will demonstrate by class discussion, practical assignments and examinations; an understanding of computers and computer systems within the automotive industry. Course material will consist of, but is not limited to, microcomputers, pre-written software packages, automotive OEM diagnostic computer systems familiarization, PROM introduction, EEPROM flashing and new automotive industry computer technology. Emphasis will be on the computer as a management and service diagnostic tool. Lecture/lab four hours. Prerequisite: 120, 150, 160, 170 and 180.

360-3 to 5 Automotive Transmissions and Transaxles. A detailed study of automatic transmissions and transaxles theory of operation, diagnosis and maintenance. Lecture will focus on the theory of operation and component design of the automotive automatic transmission. Emphasis will be placed on system and component diagnosis. Laboratory experience will consist of using specialized service equipment and diagnostic tools. Prerequisite: 120, 180.

370-3 to 5 Electronic Engine Controls. Specialized study of automotive electronics used for engine ignition, fuel and emission systems control. Lectures will focus on the operational characteristics of electronic ignition systems, computerized ignition timing control systems and fuel injection systems. Environmental legislation pertaining to automotive emissions will be examined and researched. Particular emphasis will be placed on electronic circuit operation and diagnosis. Laboratory experience will provide the opportunity to use standard electronic diagnostic tools, specialized equipment and computerized diagnostic systems used in emission failure diagnosis. Prerequisite: 120, 150 and 170.

380-3 to 5 Electronic Fuel and Emission Control Systems. Specialized study of automotive fuels, electronic fuel injection systems and emission control systems. Lectures will focus on the operational characteristics of electronic fuel injection systems and emission control systems. Alternative fuels and conventional fuels will be discussed and researched. Particular emphasis will be placed on emission control systems and their effect on failure diagnosis and repair. Laboratory experience will provide the opportunity to study the use of standard electronic diagnostic tools, specialized equipment and computerized diagnostic systems. Prerequisite: 120, 150, 170 and 370.

390-3 to 5 Body and Chassis Electronics. A study of computerized control of body and chassis electrical systems. Areas to be studied include comfort control systems, information display systems, safety/security systems and entertainment systems. Laboratory experience will emphasize the correct use of electronic diagnostic equipment and self-diagnostic software integral to on-board body computers. Prerequisite: 120, 170, 280 and 285.

420-1 to 12 Automotive Service Operations Internship. Each students will be assigned to a University approved work site to engage in work experience related to the Automotive Technology curriculum and the student's career objectives. The student will perform duties and services as assigned by the work site supervisor and internship coordinator. A written assignment is also required as determined by the department. One hundred hours of successfully completed work is required for each semester hour of credit. Not for graduate credit. Prerequisite: senior standing, consent of department, and employment at an approved work site.

430-1 to 8 Technical Investigations in Automotive Technology. Provides opportunities for students to conduct research in such areas as: federally mandated emission and clean air testing; federally mandated vehicle

inspection and maintenance procedures; research in conjunction with industry in the area of computer-based diagnostic software debugging; development of computer data related to computer-based diagnostic systems and computer-based technical information databases; development of training information on federally mandated on-board diagnostic systems, phase II (OBDII); investigation of alternative fuel systems. Not for graduate credit. Prerequisite: junior standing, faculty sponsor and consent of department.

435-3 Automotive Retail Operations. This course will provide insight into automotive dealership business management with emphasis on application to daily work. Studies will focus on interpretations of financial statements and on business management techniques essential to successful dealership operations. Not for graduate credit. Prerequisite: 325 and English 102.

475-1 to 8 Special Projects in Automotive Technology. Investigation of contemporary problems and issues within the automotive service field. Example subjects include state and federally mandated vehicle emission laws; safety; required inspection and maintenance procedures; consumer protection legislation - lemon laws; on-board diagnostic systems; hazardous automotive waste materials regulations; automotive retail management systems and procedures. Independent study. Not for graduate credit. Prerequisite: junior standing, faculty sponsor and consent of department.

485-3 Automotive Warranty Administration and Customer Relations. This course investigates the warranty policies of the major automotive manufactures. Emphasis will be placed on warranty decisions, federal and state laws covering warranties, and the legal aspects of product campaigns. There will be specific concentration on the psychology of customer relations and the development of methods to increase customer satisfaction throughout the warranty process. Not for graduate credit. Prerequisite: junior standing.

Aviation Flight (Major, Courses)

The Aviation Flight program is designed to prepare beginning students for the Federal Aviation Administration Commercial Pilot Certificate including the multi-engine and instrument ratings. Instruction is conducted at Southern Illinois Airport, Carbondale, Illinois. Flight theory courses will supplement and complement each flight course. In order to maintain the highest possible standards for flight and theory courses, each lesson of every course is submitted to and approved by the Federal Aviation Administration. FAA designated check pilots will examine the student's performance and effectiveness periodically during each flight course. University Core Curriculum Requirements and basic science courses will be supplemented with a required core of flight courses and other related technical courses to enhance the student's professional value to the aviation industry. In addition to the University tuition and fees, substantial lab fees are assessed for each flight course. For current charges, contact the Aviation Flight program.

The associate of Applied Science degree can be completed in two academic years plus one summer semester at Southern Illinois University Carbondale or in combination with community college or other acceptable extra-instructional educational experience, however, the twenty-one semester hours of aviation flight courses must be taken at SIUC. Credit may be granted for a Private Pilot certificate earned prior to enrollment at SIUC. A departmental evaluation of student's competence is required before posting credit for outside training or beginning further training in the program.

The aviation flight degree program requires the submission of a program application in addition to the University admission application. You can not be fully admitted to the SIUC Aviation Flight Program until the response to the second application is received.

After completing the Aviation Flight program the majority of graduates proceed on to a Bachelor of Science in Aviation Management (AVM) degree program on a "Two-Plus-Two" basis. In conjunction with enrollment in the Aviation Management program, Aviation Flight graduates are eligible for a wide range of flight operations internships at such airlines as United, Delta, United Parcel Service, Trans World Airlines, Northwest and American. Also available is a flight internship experience via either the SIU Aviation Flight program (as a flight instructor) or through Best Inns of America (as a corporate aircraft co-pilot). Finally Aviation Flight 304 "Practicum in Air Carrier Operations" offers post-associate course work and flight experience as a pilot in command of the university's twin engine aircraft.

Associate In Applied Science Degree, College of Applied Sciences and Arts

AVIATION FLIGHT MAJOR

University Core Curriculum Requirements

English 101, 102, Speech Communication 101 and University Core Curriculum mathematics or equivalent 12

Requirements for the Major in Aviation Flight

Applied Sciences and Arts 126 or Physics 203a and 253a 4

Geography 330 3

Approved elective course..... 3

Core Requirements 38

Aviation Flight Courses: 201, 203, 204, 206, 207a, b 21

Aviation Flight Technical Courses: 200, 202, 205, 210, 260 17

Total 60

Aviation Flight Suggested Curricular Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
AF 200, 202	3	3	Elective	3	-
AF 201, 203	5	5	AF 260.....	-	4
ENGL 101, 102	3	3	AF 204, 205.....	5	3
MATH.....	-	3	AF 210, 206.....	4	2
GEOG 330.....	3	-	SPCM 101, ASA 126	3	4
			AF 207a,b	2	2
Total.....	14	14	Total.....	17	15

Courses (AF)

200-3 Primary Flight Theory. Prepares the beginning aviation student for the FAA Private Pilot Written Examination. Consists of instruction in aerodynamics, FAA regulations, primary navigation, use of computer, weather, and radio navigation.

201-5 Flight – Primary. Provides flight instruction in preparation for the acquisition of the Private Pilot Certificate. Consists of dual flight instruction, solo and ground instruction in conjunction with each training flight and other flight-related topics.

202-3 Flight – Basic and Intermediate Theory. Instruction in Federal Aviation Administration regulations pertaining to commercial flight operations. Includes advanced instruction in aerodynamics, weather and safe operation of aircraft. Prerequisite: 200.

203-5 Flight – Basic. Beginning course in preparation for the Commercial Certificate. Major emphasis is upon solo and solo cross-country flight, with ground instruction in conjunction with each training flight and other flight related topics. Prerequisite: 201 and a valid Private Pilot Certificate.

204-5 Flight – Intermediate. Continuing preparation for the Commercial Certificate. Including dual, solo and night flight instruction and advanced maneuvers. Ground instruction is provided in conjunction with each training flight. Prerequisite: 203.

205-3 Flight – Instrument Theory. Course is directed to the theory of flight by instrument. Includes classroom instruction in Federal Aviation Administration regulations pertaining to instrument flight, navigation by radio aids, aviation weather, and function, use, and limitations of instruments required for instrument flight. Prerequisite: 202.

206-2 Flight – Instrument. This course continues preparation for the Commercial Certificate. Includes instrument flight instruction. Prerequisite: 203, 204.

207a-2 Flight Advanced. This course completes the requirements for the Commercial Certificate. Includes dual and solo flight maneuvers. Prerequisite: 206.

207b-2 Flight Multi-Engine Operations. Prepares the student for the FAA Multi-Engine rating (airplane). Includes multi-engine flight instruction and individual ground instruction. Prerequisite: 207a.

210-4 Human Factors for Aviators. Provide the student specialized instruction in the areas of: Physiological Aspects of Aviation, Psychological Aspects of Aviation, Aeronautical Decision Making and Crew Resource Management. Prerequisite: 202.

260-4 Reciprocation and Jet Airplane Systems. Students will have knowledge of construction, operation, and components of reciprocating and jet powerplants. They will understand the operation and components of cabin pressurization and air conditioning systems, flight control systems, landing gear systems, fuel systems, electrical systems, anti-icing systems, and fire detection systems.

300-2 Flight-Instructor (Airplane). Prepares the commercial pilot for an FAA Flight Instructor Certificate. Includes 20 hours of dual flight training and 40 hours of specialized ground instruction. Prerequisite: 206.

301-1 Flight-Instructor (Airplane-Multi-Engine). This course consists of five hours of dual flight instruction and 10 hours of classroom instruction. Prepares the holder of flight instructor certificate for the addition of the multi-engine flight instructor rating. Prerequisite: 300.

302-1 Flight-Instructor (Airplane Instrument). Designed to prepare the flight instructor to teach instrument flying, and to acquire the Instrumental Flight Rating. Course consists of ten hours of dual flight instruction and 15 hours of classroom instruction. Prerequisite: 300.

303-3 Flight Instructor Ground School. This course is designed to aid the student who is obtaining a flight instructor's rating. It will cover principles to teaching as well as practical aspects of teaching flight maneuvers necessary for instruction. Prerequisite: 205.

304-2 Practicum in Air Carrier Operations. Students gain practical experience and training by participating as flight officers on passenger aircraft flights. Enables students to practice, under close supervision, the role of first officer within a passenger carrier format. Course includes 20 hours of flight time and a minimum of 40 hours pre- and post-flight activities and instruction. Mandatory Pass/Fail. Prerequisite: 206, 207 and consent of department.

Aviation Maintenance Technology (Courses)

(SEE AVIATION TECHNOLOGIES MAJOR)

Courses (AMT)

110-4 Aircraft Structure-Fabrication and Repair. Students will be able to identify and select materials employed in aircraft construction. Using appropriate FAR's, they will demonstrate competence in repair of honeycomb, fiberglass, welded, wood, or fabric aircraft members. The student will inspect aircraft members for defects and, if necessary, inspect completed repairs for airworthy condition.

111-4 Materials Processing. Students will be able to identify, select, and inspect aircraft hardware and materials. They will be able to select and apply appropriate cleaning materials and to implement corrosion controls. They will become proficient in the use of precision measurement equipment and related inspection tools.

112-4 Aircraft Electricity. Students will have basic knowledge of electricity generation, AC and DC circuits, and controls. They will be able to solve problems associated with electrical measurement (AC and DC), circuit interpretations and inspection, aircraft electrical load analysis, circuit malfunctions, and circuit or component servicing. They will have as an introduction, a basic knowledge of aircraft electronics.

113-2 Federal Aviation Regulations. Students will be able to select and use FAA technical and legal publications in order to perform the duties of an aircraft technician.

114-2 Aircraft Weight and Balance. Students will fully understand and solve problems of aircraft weight and balance. They will be able to perform weighing, computation of C.G., and establishing of equipment list.

116-3 Aircraft Instruments. Students will have a knowledge of operation, installation, marking, and interpretation of synchro and servo systems, aircraft and powerplant instruments. They will be able to install, adjust, and calibrate these instruments in accordance with FAA and manufacturers' recommendations.

201-2 Applied Science. The student will be able to understand and demonstrate the application of physical laws including pressure, force, motion, mechanical advantage, heat and sound. The student will interpret blueprints and schematic diagrams and be able to perform basic mechanical drawing using drawing instruments to accomplish orthographic projections, sections and dimensioning of working drawings. Hydraulic tubes, hoses and fittings will also be studied. Course material is directed toward aviation oriented subject matter.

203-2 Aircraft Aerodynamics. Students will have a knowledge of flight theory and factors affecting aircraft in flight. They will explain and compare aircraft design features in subsonic, transonic, and supersonic aircraft. They will be able to assemble and rig various aircraft control systems, analyzing and correcting faulty flight characteristics.

204-4 Hydraulics (Aircraft). Students will have a knowledge of fluid theory and applied physics which relates to aircraft hydraulics. They will know the theory of operation, maintenance requirements, and adjustments of various hydraulic components and systems. They will be able to test, inspect, troubleshoot, and service hydraulic systems and overhaul malfunctioning components in accordance with FAA and manufacturers specifications.

205-6 Cabin Environment and Jet Transport Systems. Students will understand the atmospheric variables at different altitudes and the basic equipment required to cope with malfunction in the cabin pressurization and air-conditioning systems. Using the available information, jet transport aircraft and simulated training panels, they will understand the operation of and be able to identify the components of flight control systems, landing gear, fuel, anti-icing, and fire detection systems. They will be able to compare and analyze aircraft systems of current jet transport aircraft and to diagnose and resolve malfunction problems. They will have knowledge of procedures for aircraft ground handling, APU operation, and system servicing.

206-3 Metals Processing. Students will be able to make appropriate sheet metal repairs using correct repair procedures, tools, and materials. They will be required to demonstrate correct use of and interpretation of structural repair diagrams and correct interpretation of charts and tables from AC 43.13-1A pertaining to materials and methods.

210-2 Aircraft Electrical Systems. The successful student should have a knowledge of the operation, repair, inspection, and service of small and large aircraft electrical systems, using schematic diagrams and training panels.

211-5 Reciprocating Powerplant. Students will have a knowledge of construction, operation, and timing mechanisms associated with aircraft reciprocating powerplants. They will be able to disassemble, clean, measure, inspect, and reassemble a powerplant to airworthy condition in accordance with appropriate FAA and manufacturers' regulations and practices.

212-5 Carburetion, Lubrication, and Fuel. Students will be able to demonstrate their competence in identifying fuel and oil system components and carburetors, understanding the operating principles of each. They will be able to inspect, adjust, troubleshoot, and overhaul these components according to manufacturers and federal regulations. They will be able to identify the grades of aviation fuels and lubricants and understand the characteristics and uses of each.

213-5 Ignition Systems. Successful students should have a knowledge of the operation, repair, inspection, and service of reciprocation and jet powerplant ignition systems and reciprocating starting system. They will be able to time, overhaul, and troubleshoot the various components of each system.

214-3 Propellers. Students will have a knowledge of the physical laws and design characteristics governing propeller operation. They will be able to identify components, troubleshoot, and adjust fixed and variable pitch propellers. They will maintain fixed pitch propellers, and the governor system for variable pitch propellers in accordance with FAA and manufacturers' standards.

215-5 Powerplant Testing. Students will have an understanding of the correct procedures and precautions to be observed during engine installation, ground operation, and fuel and oil servicing. They will be required to inspect and troubleshoot reciprocating and jet engines for airworthy condition and interpret engine instrument readings to diagnose engine malfunctions.

216-6 Jet Propulsion Powerplant. Students will be able to apply and understand physics laws related to jet powerplants. They will be able to identify and understand the operation of jet engines and their components. They will be able to perform inspection, maintenance repair, troubleshooting, and adjustments of jet powerplants and accessories. They will be able to analyze engine performance and to interpret operational charts, graphs, and tables.

225-6 Aircraft Inspection. Students will be able to perform a 100-hour and an annual inspection of an aircraft. They will demonstrate knowledge of FAR's by checking appropriate AD's, classifying repairs, and pinpointing specific service problems. They will also complete the required maintenance forms, records, and inspection reports required by federal regulations. They will understand and be able to perform inspection under computerized aircraft maintenance programs.

230-6 Powerplant Inspection. Students will be able to perform periodic inspection of powerplants. They will demonstrate their knowledge of FAR and application of FAA AD's, Service Bulletins, and proper use of inspection equipment. They will use knowledge learned in the powerplant curriculum to perform malfunction analysis of powerplant and related systems. Live equipment is used on a return-to-service basis.

301-3 Helicopter Theory and General Maintenance Practice. The student will have in-depth knowledge of rotary wing aerodynamics, main and tail rotor systems, rotor blades, primary and secondary controls, and general maintenance practices to include inspection and nondestructive testing. Lecture three hours. Prerequisite: Federal Aviation Administration Airframe and Powerplant Technician license or consent of department.

302-6 Helicopter General Maintenance Laboratory. The student will perform general maintenance on rotary wing main rotor systems, tail rotor systems, flight and powerplant control systems to include malfunction analysis, tracking, static and dynamic balancing, rigging, and repair. Laboratory six hours. Prerequisite: concurrent enrollment in 301 or consent of department.

304-3 Helicopter Power Train and Inspection. The student will have in-depth knowledge of the operation, function, and inspection of all rotational components of a rotary wing aircraft to include transmission, gear boxes, drive trains, and drive shafts. Lecture three hours. Prerequisite: 301 or consent of department.

306-6 Helicopter Power Train Laboratory. The student will perform all functions of overhaul concerned with rotary wing transmissions, gear boxes, and drive trains. The student will demonstrate skill in disassembly, inspection, discrepancy analysis, reassembly, and non-destructive testing. Laboratory six hours. Prerequisite: concurrent enrollment in 304.

405-3 Flight Management Systems. Using industry type computer instruction and flight simulation trainers, the course will develop the knowledge for operation and management of autopilots, auto throttles, inertial reference systems, electronic instrument systems, and flight management computers on advanced technology type aircraft, such as the Boeing 737-400, 747-400, Douglas MD-81 and MD-11. Lecture two hours, laboratory two hours. Not for graduate credit. Prerequisite: 205 or Aviation Flight 207a,b or consent of instructor.

Aviation Management (Major, Courses)

The aviation management major is designed to build upon technical training in aviation maintenance, flight, avionics technology, air traffic control, aircraft operations support or other aviation-related fields. The technical training may be gained through Southern Illinois University Carbondale, other post-secondary institutions, proprietary schools, and military, government agencies (international or domestic) or through government certified flight or maintenance training schools. Students entering the Aviation Management major are encouraged to complete the requirements of an aviation-related associate degree under the provision of the Capstone option as explained in Chapter 3. As an alternative to an associate degree in aviation, students in aviation management should have aviation-related work experience, internship experience or technical training. Finally, concurrent enrollment in aviation-related degree programs, internships or technical training is required for those students not having prior aviation training, experience or education. The aviation management

degree program requires the submission of a program application in addition to the University admission process.

The Aviation Management program has signed a number of "Program Articulation Agreements" with aviation-related community college degree programs in order to facilitate the transfer of community college aviation students to SIUC. These agreements take full advantage of the Capstone Option for admission to the Bachelor of Science in Aviation Management. This option is available to either on- or off-campus students. The community colleges with which SIUC has signed such an agreement include: Belleville Area College (IL), Indian Hills Community College (IA), Iowa Lakes Community College (IA), Lincoln Land Community College (IL), Mercer County Community College (NJ), Mountain View College (TX), Rock Valley College (IL) and City Colleges of Chicago - Wilbur Wright College (IL). If you have questions about how these agreements apply to your personal situation, contact your community college aviation program representative or contact the academic advisor in the Aviation Management program.

Students who major in aviation management have the opportunity to participate in the following aviation management-related programs:

1. The Federal Aviation Administration (FAA) and University Aviation Association (UAA) approved Airway Science Curriculum at SIUC.
2. The Federal Aviation Administration Air Traffic Control Cooperative Education Program at SIUC. (FAA has suspended this program nationally since 1993. It may be reinstated at SIUC.)
3. The United Airlines/SIUC Cooperative Education Program in Aviation Flight and Aviation Management. Aviation maintenance management internships are also available at United Airlines.
4. The Delta Airlines Internship in Flight Operations and Management.
5. The United Parcel Service Airlines Flight Operations Intern Program.
6. The Trans World Airlines Flight Operations Intern Program.
7. The Northwest Airlines Flight Operation Internship.
8. The American Airlines Flight Operation Internship.
9. The Illinois Aviation Trades Association Intern Program.
10. The Best Inns of America flight internship program.
11. Internships at various midwest airports.
12. Boeing (St. Louis) co operative education and internship programs.

These internship programs enrich an undergraduate student's academic experience by "extending the SIU campus" to aviation headquarters or business locations around the nation.

Graduates of the Aviation Management program obtain professional, technical and management positions in aviation manufacturing, the airlines, general aviation, military aviation and government agencies related to aviation.

Bachelor of Science Degree, College of Applied Sciences and Arts

AVIATION MANAGEMENT MAJOR

<i>University Core Curriculum Requirements</i>	41
<i>Requirements for Major in Aviation Management</i>	48
Core Requirements: Twelve hours selected from the following as approved by the adviser: Aviation Management 301, 302, 385, 386, 402	12
Fifteen hours selected from Aviation Management 360, 370, 371, 372, 373, 374, 375, 376, 377, 460, 461	15
Twelve hours selected from the following as approved by the adviser: Aviation Management 300, 319, 320, 349, 350, 401, 450; or approved equivalent	12
Nine hours of additional Aviation Management courses or adviser	

approved specialization electives	9
Approved Career Electives	31
Total	120

Aviation Management Suggested Curricular Guide

THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
AVM Core.....	6	6	AVM 372, 373	3	3
AVM 370, 371	3	3	AVM 374, 375	3	3
University Core.....	3	3	AVM 376, 377	3	3
Independent Study, Internship or approved equivalent.....	3	3	University Core	3	3
			Independent Study, Internship or approved equivalent	3	3
Total.....	15	15	Total.....	15	15

Courses (AVM)

258-1 to 30 Aviation Work Experience. Credit granted for prior job skills, management-worker relations and supervisory experience while employed in the aviation industry. Credit will be established by departmental evaluation.

259-1 to 60 Aviation Occupational Education Credit. A designation for credit granted for past occupational education experiences related to the student’s educational objectives in the aviation field. Credit will be established by departmental evaluation.

298-1 Multicultural Applied Experience. (Multicultural Applied Experience Course) An applied experience, service-oriented credit in American diversity involving a group different from the student who elects the credit. Difference can be manifested by things such as age, gender, ethnicity, nationality, political affiliation, race, or class. The student can sign up for the one credit experience in the same semester he or she fulfills the multicultural requirement for the University Core Curriculum, or the credit can be coordinated with a particular Core Course on American diversity, although neither is a requirement. Students should consult the respective department for course specifications regarding grading, work requirements and supervision. Prerequisite: Approval of the site representative, faculty supervisor and department chair.

300-3 Introduction to Aviation Management Research. An introduction to library resources, electronic media resources and formal academic writing styles common to aviation management research. Introduction to basic theories, concepts and practices pertinent to aviation management. May be independent study. Prerequisite: aviation management major or consent of department.

301-3 Aviation Management Writing and Communication. This course is a study of the writing and communication skills used by managers in the aviation industry. Foundations of technical writing style and documentation are followed by descriptions of specific aviation-related technical writing applications such as correspondence, grants, manuals, progress reports and promotional materials. Specialized skills such as conflict resolution, technical presentations and electronic communication complete the course.

302-3 Current Aviation Management Practices and Processes. This course is a study of the structures, processes and skills involved in aviation management. Specific issues such as job design, decentralization, planning, decision making and leadership will be discussed and related to the aviation industry.

319-1 to 15 Aviation Occupational Internship. Each student will be assigned to a departmentally approved work site engaged in activities related to the student’s academic program and career objectives. The student will be assigned to an unpaid, internship position and will perform duties and services in an instructional setting as previously arranged with the sponsoring work site supervisor. Prior departmental approval, supervisor evaluations and student reports are required. Internships may be performed in any of the following broad areas: (a) Airline; (b) Airport; (c) Corporate aviation; (d) Fixed base operation; (e) Flight instruction; (f) Air traffic control; (g) Government; (h) Consulting firm; (i) Other, as arranged. Hours and credits to be individually arranged. Mandatory Pass/Fail.

320-1 to 12 Aviation Cooperative Education. Students will participate in a departmentally approved cooperative education program that includes formal instruction, training and/or career related work experience. Students receive a salary or wages and engage in pre-arranged assignments related to their academic program and career objectives. Departmental faculty evaluations, cooperating agency student performance evaluations and student report are required. Cooperative experiences may be in any of the following broad areas: (a) Airlines; (b) Airport; (c) Corporate aviation; (d) Fixed base operations; (e) Flight instruction; (f) Air traffic control; (g) Government; (h) Consulting firm; (i) Other, as arranged. Hours and credits to be individually arranged.

349-3 Readings in Aviation Management. The use of written and electronic media resources relevant to aviation management and the development of an aviation management research bibliography. The use of bibliographic resources to produce written comparative or persuasive research reports. May be independent study. Prerequisite: 300 and aviation management major or consent of department.

350-1 to 32 Aviation Career Subjects. In-depth competency, skill development and exploration of innovative techniques and procedures used in aviation businesses, government operations related to aviation and other aviation related organizations. Subjects and topics may include present or planned future operations as well as domestic or international enterprises. Study of departmentally approved topics or projects may include workshops, special short courses, seminars, research or independent study. Prerequisite: consent of instructor.

360-3 The Air Traffic Control System, Procedures and Rules. This course introduces student pilots and prospective career air traffic controllers to the history, evolution and operation of the United States Air Traffic Control System. Air traffic control procedures and rules are emphasized with student pilots treated as users of the system and prospective career air traffic controllers treated as future air traffic service providers. Students will be able to apply air traffic control procedures and rules when operating aircraft or as air traffic specialists. Prerequisite: Instrument Flight Certificate or consent of department.

370-3 Airport Planning. To acquaint the student with the basic concepts of airport planning and construction, as well as an investigation of various community characteristics and resources.

371-3 Aviation Industry Regulation. A study of the various regulatory agencies of the industry and their functions.

372-3 Airport Management. A study of the operation of an airport devoted to the phases of lighting, fuel systems, field marking, field buildings, hangars, and surrounding community.

373-3 Airline Management. A study of the administrative aspects of airline operation and management including a detailed study of airline organizational structure.

374-3 General Aviation Operations. A study of general aviation operations including fixed base operations (fuel, sales, flight training, charter, etc.), corporate aviation (business aviation, corporate flight departments, executive air fleets, etc.) and the general aviation aircraft manufacturing industry.

375-3 Legal Aspects of Aviation. The student will develop an awareness of air transportation. The course will emphasize basic law as it relates to contracts, personnel, liabilities, and legal authority of governmental units and agencies. Lecture three hours.

376-3 Aviation Maintenance Management. To familiarize the student with the functions and responsibilities of the aviation maintenance manager. Maintenance management at the fixed base operator, commuter/regional airline, and national air carrier levels will be studied. Aviation maintenance management problems areas will be reviewed using the case study method.

377-3 Aviation Safety Management. This course will survey the various aspects of aviation flight and ground safety management. Weather, air traffic control, mechanical and human factors in aviation safety management will be reviewed. Case studies of individual aviation accidents and incidents will be analyzed.

385-3 Air Transport Labor Relations. The body of legislation of governing labor relations in the private sector of the United States economy consists of two separate and distinct pieces of legislation, the Railway Labor Act, which governs labor relations in the railroad and airline industries; and the National Labor Relations Act governing labor relations in all other industrial sectors. This course focuses on the examinations of air transport labor relations in the context of these key laws. As the student and practitioner of aviation management comes in contact with both Acts through this course, the student learns similarities and differences of each and their resultant impact. Such a review will provide an understanding of underlying public policy goals, while acquiring an appreciation and understanding of the collective bargaining process, administration and procedures of the labor arena. The student will actively apply this knowledge in a mock labor negotiation. Prerequisite: Aviation Management major or consent of department.

386-3 Fiscal Aspects of Aviation Management. An introduction to the fiscal problems encountered in the administration of aviation facilities.

401-3 Analysis of Issues in the Aviation Industry. The identification and study of current economic, regulatory or operational issues impacting the aviation industry. The use of both written and oral reports to present a critical analysis of selected topics. May be independent study. Not for graduate credit. Prerequisite: 349 and aviation management major or consent of department.

402-3 Aviation Industry Career Development. Provides an overall description and forecast of the employment possibilities in the aviation industry, as well as specific information regarding how to apply for such employment. Also covered is the preparation of the future aviation professional for the search for employment including such items as personal assessment, resume construction, interviewing skills, writing letters of appreciation, the use of references, networking, employment referral agencies/services and continuing education. Not for graduate credit. Prerequisite: Aviation Management major or consent of department.

450-3 Management Problems in the Aviation Industry. The identification and study of problems related to management within the aviation industry. The application of aviation management theories, concepts and practices to the identified management problems. The use of written and electronic media research resources to produce a written problem solving report. May be independent study. Not for graduate credit. Prerequisite: 401 and aviation management major or consent of department.

460-3 National Airspace System. The evolution, current state, and future of the National Airspace System with emphasis on its current and future impact on the domestic and international aviation industry. Defines the Federal Aviation Administration's role in the operation, maintenance, and planned modernization of Air Traffic Control facilities, airways and navigational aids, landing aids, and airports. The users of the system, their needs, and issues with the system's operation and planned modernization are examined. Not for graduate credit. Prerequisite: 360 or consent of department.

461-3 Aviation Product Support Management. This course will acquaint students with concepts and techniques used in analysis and development of an aviation product support program. Concepts discussed in this course will provide a basic understanding of complexities and issues associated with design of a fully integrated aviation product support program. Design considerations, integration of product support into the total product design, support planning and post-delivery support will be covered. Not for graduate credit. Prerequisite: 376 or consent of department.

Aviation Management and Flight Faculty

Baumgardner, Barbara, Visiting Assistant Professor, M.P.A., Golden Gate University, 1989.

Biggs, V. Eugene, Assistant Professor, M.S., Southern Illinois University Carbondale, 1971.

Bowman, Terry S., Associate Professor, Ph.D., Southern Illinois University Carbondale, 1993.

Falkenberry, W. A., Visiting Assistant Professor, *Emeritus*, M.S., Southern Illinois University, 1980.

Kampe, David, Visiting Lecturer, M.S., Southern Illinois at Carbondale, 1997.

Kaps, Robert W., Associate Professor, Ph.D., Southern Illinois University Carbondale, 1996.

Lustman, Robert, Visiting Lecturer, B.S., Southern Illinois University Carbondale, 1989.

Martinez, Richard, Lecturer, B.S., California State University at Los Angeles, 1983.

Mortag, Keith, Assistant Instructor/Charter Pilot, M.S., Southern Illinois University Carbondale, 1997.

NewMyer, David, Associate Professor and *Chair*, Aviation Management and Flight, Ph.D., Southern Illinois University Carbondale, 1987.

Ruiz, Jose, Assistant Professor, M.A.S., Embry-Riddle Aeronautical University, 1986.

Sharp, Susan, Assistant Professor, M.E., Northeast Louisiana University, 1983.

Thiesse, James, Assistant Professor, *Emeritus*, Ed.D., Auburn University, 1980.

Voges, John K., Visiting Lecturer, B.A., Sangamon State University, 1988.

Widick, Leland, Assistant Professor, *Chief Flight Instructor*, M.S., Southern Illinois University Carbondale, 1994.

Worrells, David, Assistant Professor, M.A.M. Embry-Riddle Aeronautical University, 1985.

Aviation Technologies (Major, Courses)

Whether general aviation aircraft or transport, modern aircraft require highly-trained technicians to manage hardware, troubleshoot systems and maintain airframe structures and powerplants. The programs in the Department of Aviation Technologies are ranked among the best in the country and were developed with input from industry representatives and the Federal Aviation Administration (FAA) to provide the requisite skills and broad educational experience necessary in today's competitive environment. Optional paths within the major provide a great deal of flexibility in preparing for a career in the aviation industry. Students may pursue the FAA approved airframe and powerplant certificate in a five semester sequence of coursework or they may include the airframe and powerplant certificate, with additional coursework, as part of their four-year bachelor's degree in Aviation Technologies or they may forgo certification entirely to concentrate on a particular area of interest in the bachelor's degree program.

The Bachelor of Science degree program in Aviation Technologies is designed to enhance technical training students have received in aviation maintenance or electronics. This technical training may be acquired through SIUC (FAA, airframe and powerplant certificate), at other post-secondary institutions, in the military, or in the case of aviation maintenance, at other FAA approved maintenance schools certified under F.A.R. Part 147.

Additionally, the Department of Aviation Technologies has signed a number of "Program Articulation Agreements" with aviation-related community college degree programs in order to help facilitate the transfer of these particular community college aviation students to SIUC. The community colleges with which SIUC has signed such an agreement include: Belleville Area College (IL); Indian Hills Community College (IA); and Rock Valley College (IL).

Unless the student is a freshman interested in the Aviation Electronics specialization or the FAA airframe and powerplant certificate, all students entering the Aviation Technologies program are encouraged to have completed an appropriate associate degree or its equivalent under the provisions of the Capstone Option as explained in Chapter 3. The Capstone Option allows qualified students to fulfill their degree requirements by completing no more than 60 semester hours of coursework beyond

their associate degree. Students may choose from three specializations: Aircraft Maintenance, Helicopter Maintenance and Aviation Electronics.

Courses in each of these areas have been selected and designed to provide the student with optimum exposure to theory in the classroom and develop practical, hands-on skills both in the hanger and in specially-designed, task-dedicated laboratories. The Aviation Technologies facilities, located at Southern Illinois Airport between Carbondale and Murphysboro, Illinois, provides students with more than 10 million dollars of the best available equipment including fixed and rotary wing aircraft, airline-type cockpit procedure trainers (CPT's), an advanced composite structures laboratory and computer laboratory. Students should expect to spend about \$600 for a tool kit.

Executives in the aviation industry constitute an advisory committee which serves the Aviation Technologies program. Current members are: Loren Doughty, Director of Customer Training, Bell Helicopter Textron, Fort Worth, Texas; Robert Bauman, RAB Consulting Services, Makanda, Illinois; Raoul Castro, Aerospace International Management, Upland, California; Joe Cooley, UPS, Aircraft Records, Louisville, Kentucky; Joseph DePaola, Training Technologies International, Euless, Texas; James A. Kennedy, Manager, Avionics Department, Midcoast Aviation, Inc., Cahokia, Illinois; Terry Washow, Aviation Maintenance Consultant; Mike Kelly, General Aviation-Avionics Division, Olathe, Kansas; Harry B. Fanning, Group Manager, Boeing Company, St. Louis, Missouri.

FAA Approved Airframe and Powerplant Certificate Only

First Semester: Math 113, AMT 111, 112, 113, 114, 201	17 ¹
Second Semester: AMT 116, 210, 211, 212, 213	20 ¹
Third Semester: AMT 203, 206, 214, 215, 216	19 ¹
Fourth Semester: AMT 110, 204, 205	14 ¹
Summer Session: AMT 225, 230	12 ¹
Total	82

¹A minimum grade of C is required for all AMT courses

Bachelor of Science Degree, College of Applied Sciences and Arts

AVIATION TECHNOLOGIES MAJOR - AIRCRAFT MAINTENANCE SPECIALIZATION

The aircraft maintenance specialization provides students who have completed an FAA approved airframe and powerplant program with the opportunity to advance their technical skills in aviation and to develop management level skills essential to industry.

<i>University Core Curriculum Requirements</i>	<i>41</i>
<i>Requirements for Specialization in Aircraft Maintenance</i>	<i>42</i>
Core Requirements.....	12¹
AVT 317	3
AVT 318	3
AVM 376.....	3
AVM 385 or ATS 364	3
Specialization Requirements.....	18¹
AMT 405	3
AVT 410	3
AVT 416	3
AVT 324	5
AVT 325	4
Specialization Electives.....	12¹
Advisor approved electives to reflect students career interest and goals. May be any combination of coursework to include AVT, AVM, AMT, ATS.	
<i>Technical or Career Electives</i>	<i>37</i>

An Associate in Applied Science degree or equivalent certification in Aviation Maintenance (Airframe and Powerplant) from an accredited college, community college, or technical institute meets this requirement.

Total	120
-------------	-----

¹All Aviation Technologies and Aviation Maintenance Technology courses require a minimum grade of C.

Aircraft Maintenance Suggested Curricular Guide

FIRST YEAR			SECOND YEAR		
	FALL	SPRING		FALL	SPRING
ENGL 101, 102	3	3	Core Science.....	3	-
MATH 108	3	-	Core Social Science	-	3
SPCM 101.....	-	3	Technical Electives.....	13	5
Technical Elective	10	9	Specialization Elective	-	6
Total.....	16	15	Total.....	16	14
THIRD YEAR			FOURTH YEAR		
	FALL	SPRING		FALL	SPRING
Core Humanities.....	3	3	Core Social Science	3	-
Core Science	-	3	Core Fine Arts	3	-
Specialization Elective	6	-	Multicultural	3	-
AVT 317	3	-	Core Human Health	-	2
AVT 318	3	-	Interdisciplinary	-	3
AVT 324	-	5	AMT 405.....	3	-
AVT 325	-	4	AVT 410, 416.....	3	3
Total.....	15	15	AVM 385 or ATS 364.....	-	3
			AVM 376	-	3
			Total.....	15	14

Bachelor of Science Degree, College of Applied Sciences and Arts

AVIATION TECHNOLOGIES MAJOR - AVIATION ELECTRONICS SPECIALIZATION

The aviation electronics specialization is designed to accommodate freshman or transfer students. Freshmen can pursue a combined electronics and aviation electronics curriculum or a combined FAA Airframe and Powerplant Certificate and aviation electronics curriculum. Transfer maintenance students (airframe and powerplant) will develop flight line maintenance and troubleshooting skills in aviation electronics. Transfer electronics students will develop flight line maintenance skills as well as enhance their repair skills in aviation electronics.

University Core Curriculum Requirements	41
Requirements for Aviation Electronics Specialization.....	43
Core Requirements	12 ¹
AVT 317.....	3
AVT 318.....	3
AVM 376.....	3
AVM 385 or ATS 364	3
Specialization Requirements	21 ¹
AVT 233.....	3
AVT 237.....	3
AVT 321.....	2
AVT 324.....	5
AVT 325.....	4
AVT 323.....	4
Specialization Electives	10 ¹
Advisor approved electives from AVT 320, 322, 330, 360, 365 or 370.	
Technical or Career Electives.....	36
An Associate in Applied Science degree or equivalent certification in Aviation Maintenance (Airframe and Powerplant) or Electronics from an accredited college, community college, or technical institute meets this requirement.	
Total.....	120

¹All Aviation Technologies and Aviation Maintenance Technology courses require a minimum grade of C.

Aviation Electronics Suggested Curricular Guide

FIRST YEAR			SECOND YEAR		
	FALL	SPRING		FALL	SPRING
ENGL 101, 102.....	3	3	Core Social Science ¹	3	-
MATH 108	3	-	Core Humanities ²	-	3
SPCM 101	-	3	Core Science	-	3
Approved Technical Electives..	10	10	Approved Technical Elective ...	10	6
			AVT 233, AVT 237	3	3
<i>Total</i>	16	16	<i>Total</i>	16	15
THIRD YEAR			FOURTH YEAR		
	FALL	SPRING		FALL	SPRING
Core Social Science ¹	3	-	Core Science	-	3
Core Humanities ²	3	-	Interdisciplinary	3	-
Multicultural	-	3	Core Human Health	-	2
Core Fine Arts	-	3	AVT 323.....	4	-
AVT 321	2	-	Approved Specialization Elect ...	6	4
AVT 317	3	-	AVM 385 or ATS 364	-	3
AVT 318	3	-	AVM 376	-	3
AVT 324	-	5			
AVT 325	-	4			
<i>Total</i>	14	15	<i>Total</i>	13	15

¹Students may take only one history course to satisfy this requirement.
²Students may take one course from groups 1 and 2 or may select a sequence in History, Philosophy or English.

Bachelor of Science Degree, College of Applied Sciences and Arts

AVIATION TECHNOLOGIES MAJOR - HELICOPTER SPECIALIZATION

The helicopter specialization provides students who have completed an FAA approved airframe and powerplant program with the opportunity to advance technical skills in helicopter theory, maintenance and overhaul, and inspection. Additional management courses complement this specialization.

University Core Curriculum Requirements	41
Requirements for Helicopter Specialization	42
Core Requirements.....	12 ¹
AVT 317	3
AVT 318	3
AVM 376.....	3
AVM 385 or ATS 364	3
Specialization Requirements.....	18 ¹
AMT 301	3
AMT 302	6
AMT 304	3
AMT 306	6
Specialization Electives.....	12 ¹
Advisor approved electives to reflect students career interests and goals. May be any combination of coursework to include AVT, AVM, AMT or ATS.	
Technical or Career Electives.....	37
An Associate in Applied Science degree or equivalent certification in Aviation Maintenance (Airframe and Powerplant) from an accredited college, community college, or technical institute meets this requirement.	
<i>Total</i>	120

¹All Aviation Technologies and Aviation Maintenance Technology courses require a minimum grade of C.

Helicopter Suggested Curricular Guide

FIRST YEAR			SECOND YEAR		
	FALL	SPRING		FALL	SPRING
ENGL 101, 102	3	3	Core Science.....	3	-
MATH 108	3	-	Core Social Science ²	-	3
SPCM 101.....	-	3	Technical Elective	13	5
Technical Elective	10	9	Specialization Elective	-	6
Total.....	16	15	Total.....	16	14
THIRD YEAR			FOURTH YEAR		
	FALL	SPRING		FALL	SPRING
Core Humanities ¹	3	3	Core Social Science ²	3	-
Core Science	-	3	Core Fine Arts	3	-
Specialization Elective	6	-	Multicultural	-	3
AVT 317	3	-	Core Human Health	-	2
AVT 318	3	-	Interdisciplinary	-	3
AMT 301	-	3	AMT 304.....	3	-
AMT 302	-	6	AMT 306.....	6	-
Total.....	15	15	AVM 385 or ATS 364	-	3
			AVM 376	-	3
			Total.....	15	14

¹ Students may take only one history course to satisfy this requirement.
² Students may take one course from group 1 and 2 or may select a sequence in History, Philosophy, or English.

Courses (AVT)

199-1 to 10 Individual Study. Provides students with the opportunity to develop a special program of study to fit a particular need not met by other offerings. Enrollment provides access to the resources and facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Prerequisite: instructor and departmental consent.

233-3 Aircraft Communication and Navigation Systems. This course will introduce the student to the theory of operation of transceivers used for communication in aircraft, as well as audio control and intercom systems, navigation receivers, including VOR, ILS and ADF will be discussed. Student will be introduced to basic operational and trouble analysis techniques using test equipment. Lecture two hours, laboratory two hours. Prerequisite: Aviation Maintenance Technology 112 or department consent.

237-3 Aviation Logic Circuits and Pulse Systems. Students will study the operation of logic gates, inverters, shift registers and counters used in aviation pulse-type equipment. The theory and application of Air Traffic Control Radar Beacon Transponders and Distance Measuring Equipment will be covered. Students will be introduced to basic operational and trouble isolation techniques using test equipment. Lecture two hours, laboratory two hours. Prerequisite: Aviation Maintenance Technology 112 or departmental consent.

258-1 to 30 Aviation-Technology Work Experience. Credit granted for prior Aviation Technologies related job skills, work experience, management-worker relations and supervisory experience while employed in the aviation industry. Credit will be established by departmental evaluation.

259-1 to 60 Aviation-Technology Occupational Education Credit. A designation for credit granted for past occupational educational experiences related to the student's educational objectives in Aviation Technologies. Credit will be established by departmental evaluation.

317-3 Introduction to Aviation Electronics. This course provides an introduction to electron devices used in analog and digital electronics equipment. Device operation will be analyzed from a theoretical perspective, and applied to circuits for power supplies, amplifiers, control devices and communication data bussing. Practical application will be stressed in laboratory. Lecture two hours, laboratory two hours. Prerequisite: Aviation Maintenance Technology 112 or departmental consent.

318-3 Aviation Electronics Control Systems. Coursework is based upon theory and application of analog and digital control systems. Topics include transducers, control input devices, instrument panel displays and feedback sensor circuits. Data recording and monitoring systems will also be presented. Lecture two hours, laboratory two hours. Prerequisite: 317 or concurrent enrollment in 317.

319-1 to 15 Aviation Technologies Internship. Each student will be assigned to a departmentally approved work site engaged in activities related to the student's academic program and career objectives. The student will be assigned to an unpaid internship position and will perform duties and services in an instructional setting as previously arranged with the sponsoring work site supervisor. Prior departmental approval, supervisor evaluations and student reports are required. Hours and credits to be individually arranged. Mandatory Pass/Fail. Prerequisite: departmental approval.

320-1 to 12 Aviation Technologies Cooperative Education. Student will participate in a departmentally approved cooperative education program that includes formal instruction, training and/or career related work experience. Students may receive a salary or wages and will engage in pre-arranged work assignments related to their academic program and career objectives. Departmental faculty evaluations, cooperating agency student performance evaluations and student reports are required. Hours and credit to be individually arranged. Prerequisite: departmental approval.

321-2 FCC Regulations. The students will have knowledge of Federal Communications Commission requirements for aircraft station licenses, aeronautical ground stations, and radio telephone operator's privileges and

limitations. Lecture two hours. Prerequisite: 233 or departmental consent.

322-3 Aviation Radar System. Introduces the student to applications of airborne radar equipment, including weather detection and tracking. The student will gain an understanding of installation techniques, system performance specifications, operational analysis and troubleshooting. Lecture two hours, laboratory two hours. Prerequisite: 317 and 318.

323-4 Microcomputers for Aviation Professionals. This course is designed to acquaint the student with microcomputer systems and their utilization as it relates to the aviation industry. The student will become familiar with software requirements, software systems, work processing, spreadsheets and data base requirements. Each student will be acquainted with telecommunication systems used in the aviation field. Each student will have the knowledge to evaluate an individual microcomputer system and its software. Lecture four hours.

324-5 Aviation Electronics Flight Line Maintenance. This course presents a introduction to the study of aircraft electronic systems and their components. Students will learn flight line preventive maintenance techniques and will troubleshoot the systems to the faulty line-replaceable-unit (LRU). The student will evaluate system performance as directed by the Federal Aviation Regulations (FARs), as well as equipment manufacturers' specifications. Lecture five hours. Prerequisite: concurrent enrollment in 325.

325-4 Flight Line Maintenance Laboratory. Students will perform selected operational tasks on aircraft systems or simulators, and will perform flight line preventive maintenance tasks and troubleshoot selected aircraft electronic systems. The student will demonstrate the ability to apply ramp-test criteria to selected systems to determine if tested systems meet prescribed standards. Laboratory eight hours. Prerequisite: concurrent enrollment in 324 and departmental consent.

330-3 Advanced Aviation Electronics. This course will enable the student to develop advanced technical skills in aircraft communication, navigation and pulse systems. Applications will include diagnosing and analyzing state-of-the-art equipment and systems from an operational and fault isolation perspective. Coursework will include applications of emerging technologies in aviation electronics. Lecture one hour, laboratory four hours. Prerequisite: 233 and 237, or departmental consent.

350-1 to 32 Technical Subjects in Aviation Technologies. In-depth competency, skill development and exploration of innovative techniques and procedures used in Aviation Technologies. Study of departmentally approved topics or projects may include workshops, short courses, seminars, research or independent study. Prerequisite: consent of instructor.

360-3 Digital Data Bussing and Electronic Flight Instrument System (EFIS) Theory. This course will introduce the student to digital microprocessor concepts and circuits. The student will be introduced to various digital information data bus systems and electronically generated displays. Data bus protocols, controllers, exchange formats and software used in typical aircraft electronics systems will be explored. Cathode-ray tube display formats used in EFIS indicators will be studied. Lecture three hours. Prerequisite: 318, concurrent enrollment in 365.

365-3 Digital Data Bussing and Electronic Flight Instrument System Laboratory. This course has been designed to enable the student to develop technical skills with the topics studied in 360. The student will construct fundamental digital and microprocessor circuits for analysis and will demonstrate the ability to encode and decode information on standard aircraft data busses. The student will evaluate, test and troubleshoot brief software routines for digital information transfer. Laboratory six hours. Prerequisite: concurrent enrollment in 360.

370-5 Reliability, Maintainability and Fault Prediction and Analysis. Students will demonstrate the ability to understand and perform analysis and prediction of the logistical concepts of reliability, maintainability and fault prediction and analysis of products and systems. A conceptual understanding of logic symbols, fault tree analysis and fault criticality as well as logistical management are presented. Lecture five hours. Prerequisite: departmental consent.

410-3 Advanced Composites. Topics include the theory and application of advanced composite materials used in modern aircraft structures and engine components. Students will evaluate structures and implement various methods of repair and maintenance using both cold and heated application methods. Not for graduate credit. Prerequisite: Aviation Maintenance Technology 110 or departmental consent.

416-3 Advanced Propulsion Systems. A study of advanced turbine powerplants and their control systems. Students will demonstrate an understanding of the operation and construction of integrated composite engines and analyze digital control systems. Topics include the interfacing of powerplant controls and monitoring systems, aircraft electronic data bussing and indicating displays. Not for graduate credit. Prerequisite: 317, 318, Aviation Maintenance Technology 216 or departmental consent.

Aviation Technologies Faculty

Birkhead, Larry M., Assistant Professor, *Emeritus*, M.S., Southern Illinois University Carbondale, 1986.

Cannon, Richard H., Assistant Professor, *Emeritus*, B.S., Southern Illinois University Carbondale, 1982.

Cotter, John D., Assistant Professor, M.S. ED., Southern Illinois University Carbondale, 1988.

Kolkmeier, Robert O., Associate Professor, M.S. ED., Southern Illinois University Carbondale, 1971.

Milton, William C., Assistant Professor, M.S., Southern Illinois University Carbondale, 1986.

Most, Michael T., Associate Professor, M.A., Central Washington University, 1974.

O'Brian, Benjamin H., Assistant Professor, *Emeritus*, M.S., Southern Illinois University Carbondale, 1985.

Ohman, Lennart R., Assistant Professor, B.S., University of Illinois, 1964.

Rodriguez, Charles L., Assistant Professor, Ph.D., Southern Illinois University Carbondale, 1997.

Russell, Lewis G., Assistant Professor, M.S. ED., Southern Illinois University Carbondale, 1978.

Sanders, Robert F., Assistant Professor, M.S. ED., Southern Illinois University Carbondale, 1986.

Schafer, Joseph A., Associate Professor, B.S., Lewis College, 1960.

Staples, Laurence C., Assistant Professor and Chair, B.S., Southern Illinois University Carbondale, 1975.

Verner, Gerry D., Assistant Professor, B.S., Southern Illinois University Carbondale, 1973.

Biochemistry (Courses)

Biochemistry (BCHM) courses at the advanced undergraduate level are offered by the department of Medical Biochemistry. Faculty members of the Medical Biochemistry department are also involved in School of Medicine programs, the Physician Assistant program and graduate program in Molecular Biology, Microbiology and Biochemistry (MBMB).

Courses (BCHM)

451-6 (3,3) Biochemistry. (Same as Chemistry 451 and Molecular Biology, Microbiology and Biochemistry 451.) (a) Chemistry and function of amino acids, proteins and enzymes; enzyme kinetics; chemistry, function, and metabolism of carbohydrates; citric acid cycle; electron transport and oxidative phosphorylation. (b) Chemistry, function, and metabolism of lipids; nitrogen metabolism; nucleic acid and protein biosynthesis; metabolic regulation. Three lectures per week. Must be taken in a,b, sequence. Prerequisite: on year of organic chemistry.

456-3 Biophysical Chemistry. (Same as Chemistry 456 and Molecular Biology, Microbiology and Biochemistry 456.) A one semester course in biophysical chemistry intended for biochemists and molecular biologists. Emphasis will be on solution thermodynamics, kinetics and spectroscopy applied to biological systems. Prerequisite: Chemistry 340 and 342, 451a or concurrent enrollment, Mathematics 141 and 150.

Biochemistry Faculty

Bartholomew, Blaine., Associate Professor, Ph.D., University of California, Davis, 1988

Gupta, Ramesh., Associate Professor, Ph.D., University of Illinois, 1981.

Hardwicke, Peter M.D., Professor, Ph.D., Kings College, London, 1969.

Niederhoffer, Eric C., Associate Professor, Ph.D., Texas A&M University, 1983.

Schmit, Joseph C., Associate Professor and Chair, Ph.D., Purdue University, 1971.

Shriver, John W., Professor, Ph.D., Case Western University, 1977.

Biological Sciences (Major)

Biological Sciences is an appropriate major for students wishing to pursue a pre-professional curriculum, planning a teaching career, seeking a career as a laboratory research scientist or pursuing an interest in environmental biology. The Biological Sciences major is an interdepartmental, interdisciplinary major designed to give the student a measure of breadth rather than an in-depth concentration in one particular facet of the biological areas. The curriculum is drawn from the resources of four life science departments, each of which have their own undergraduate degrees.

Students with a major in Biological Sciences may not select one of the four life science areas as a minor, and students electing to pursue a double major may not use more than 11 semester hours of biological sciences courses to satisfy the requirements for both majors. In addition to the biological sciences courses, students are required to take courses in mathematics, physics and chemistry.

Students planning a major in Biological Sciences should consult with the director of the Biological Sciences Program for information concerning specific questions about the curriculum requirements.

Bachelor of Arts Degree, College of Science

<i>University Core Curriculum Requirements</i>	41 ¹
<i>College of Science Academic Requirements</i>	6-8
Supportive Skills: at least 6 credit hours chosen from Mathematics 282 or 283 or Plant Biology 360; Computer Science 201 or 202; English 290, 291 or 491; or any two semester sequence of a foreign language ²	6-8
<i>Requirements for Biological Sciences</i>	64-66
Biology 200a,b.....	6
Biology 305	3
Microbiology 301	4
Physiology 310	5
Plant Biology 300	4
Zoology 220a,b	6
Any one of Biology, Microbiology, Physiology, Plant Biology or Zoology 300-level courses	3 ³
At least 9 credit hours of Microbiology, Physiology, Plant Biology or Zoology 400-level courses	9 ³
Chemistry 200, 201	4
Chemistry 340, 341	5
Chemistry 350	3
Physics 203a, 253a or Physics 205a, 255a	4
Mathematics 108 and 109, or 111	5-6
Any one of the following: Mathematics 141, or 150; Plant Biology 360, Mathematics 282 or 283 ⁴	3-4
<i>General Electives</i>	5-9 ⁵
Total	120

¹The 41 hour requirement may be reduced by taking major requirements which are approved substitutes for University Core Curriculum courses.

²The supportive skills foreign language requirement may also be met by one of the following: (a) completing three years of one language in high school with a grade of C or better; or (b) earning 8 credit hours of 100-level courses in one language by proficiency examination.

³Courses identified as independent research, special problems, readings or seminars including Biology 315 may not be used to fulfill this requirement.

⁴If Plant Biology 360 or Mathematics 282 or 283 is used as a supportive skill requirement, it may not be used to fulfill the mathematics requirement.

⁵Substitution of majors courses for University Core Curriculum courses will increase the number of general elective hours.

Biological Sciences Suggested Curricular Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
ENGL 101, 102.....	3	3	Humanities Core	-	3
Fine Arts Core	3	-	Social Science Core	3	-
MATH 108,109	3	3	MATH 141.....	4	-
Social Science Core	-	3	ZOOL 220a,b.....	3	3
BIOL 200a,b	3	3	CHEM 340, 341.....	5	-
CHEM 200, 201	4	-	PLB 300	-	4
SPCM 101	-	3	Interdisciplinary	-	3
			ENGL 290	-	3
Total	16	15	Total	15	16
THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
Humanities Core.....	3	-	MICR 301	4	-
CHEM 350.....	-	3	MATH 282	-	3
PHYS 203a, 253a	4	-	BIOL 400-level	3	6
BIOL 305	-	3	Elective	7	6
BIOL 300-level	-	3			
PHSL 310	5	-			
BIOL 400-level	-	3			
Multicultural	3	-			
Elective	-	2			
Total	15	14	Total	14	15

Bachelor of Science Degree, College of Education

Students planning to obtain their degree in the College of Education must satisfy all the requirements of that college. The teacher education program requires 28 hours of professional education courses. See Teacher Education Program, Chapter 5. University Core Curriculum requirements for teacher education must include the following: ENGL 101, 102; SPCM 101; MATH 108 or 111; CHEM 200; PLB 200; FL 101, HIST 101a¹, 101b, PHIL 103a or 103b; HIST 110; AD 101, HIST 201, MUS 103 or THEA 101; ENGL 121 or 204; HIST 304i¹ or PHIL 308i; POLS 114; PSYC 102; ANTH 202, HIST 202, 210 or SOC 215; HED 101 or PE 101. The requirements in biological sciences will be the same as those in the College of Science. Those students desiring to attain a secondary education teaching certificate must also enroll in Curriculum and Instruction 468.

¹ One course in non-western civilization must be taken

Minor

A minor in biological sciences consists of a minimum of 20 hours and must include: any one of Biology 305, 306 or 307 (3 hours); at least nine hours from Microbiology 301, Physiology 310, Plant Biology 204 and Zoology 220a,b; and eight hours selected from course offerings in Microbiology, Physiology, Plant Biology and Zoology. A student with a major in one of the four life sciences may not take a minor in Biological Sciences. All minors must be approved by the director of the Biological Sciences Program.

Courses (BIOL)

200A-3 Cell and Molecular Biology, Genetics and Evolution. [IAI Major Course: BIO 912] Basic concepts and principles of biology: chemistry of life; cell structure and function; energetics and biosynthesis; genetics and molecular biology; and evolution. Two lectures and one two-hour laboratory per week. For life science majors only. Prerequisite: high school chemistry and biology. Recommended that concurrent enrollment in Chemistry 140a or 200 and 201 be considered.

200B-3 Organismal and Ecological Biology. [IAI Major Course: BIO 911] Basic concepts and principles of biology: organismal diversity (plants, animals and microorganisms); plant form and function; animal form and function; and ecology. Two lectures and one two-hour laboratory per week. For life science majors only. Prerequisite: high school chemistry and biology. Recommended that concurrent enrollment in Chemistry 140a or 200 and 201 be considered.

210-2 to 6 Biology Field Studies. A trip of from two to six weeks to acquaint students with organisms in various environments or with methods of field study, collection, and preservation. Students will incur costs for food, lodging, and transportation. Prerequisite: consent of instructor.

305-3 Principles of Genetics. Principles of genetics including Mendelism; chromosome behavior; genetic mapping; mutation and allelism; replication transcription, and translation; gene function and regulation; polygenic systems; population genetics and evolution; and genetic applications. Prerequisite: 200a,b and Chemistry 140a or 200 and 201.

306-3 Cell Biology. The basic functions of the cell are considered. The biochemical basis and mechanisms of the cellular processes, the functions of the subcellular structures, and their ramifications will be explored in the context of plant and animal cells. Prerequisite: 200a,b and Chemistry 140a or 200 and 201.

307-3 Principles of Ecology. Broad principles of ecology on the organismic, the population, the community, and the ecosystem level. Includes environmental factors, adaptations, energy and material balance, succession, and human ecology. Prerequisite: Mathematics 108, Biology 200a,b and Chemistry 140a or 200 and 201.

308-3 Organismic Functional Biology. Fundamental principles and biological examples of basic phenomena characteristic of organisms, including transport, integration and reproductive systems. Detailed attention will be given to various organ systems with an emphasis on function. Prerequisite: 200a,b and Chemistry 140a or 200 and 201.

309-3 Developmental Biology. Basic principles and processes of embryonic development including contemporary research on molecular, cellular and genetic mechanisms of differentiation and morphogenesis; selected plants and invertebrate and vertebrate animals will be considered. Prerequisite: 200a,b and Chemistry 140a or 200 and 201.

315-2 History of Biology. The interrelationships between the development of biological knowledge and the history of the human races.

Black American Studies (Minor, Courses)

The Black American Studies program is a part of the College of Liberal Arts and follows the academic requirements of the College of Liberal Arts as listed above.

A minor in Black American Studies consists of a minimum of 20 hours which are to be selected from Black American Studies course offerings and organized according to each individual student's field of interest. An official minor is subject to approval by the director of Black American Studies.

Courses (BAS)

109-3 Introduction to Black America. A survey course designed to expose the student to various aspects of the black experience. Aspects included are history, literature, theology, the arts, etc. The textbook is a collection of essays designed to use especially in this course and is supplemented by guest lecturers and audiovisual materials.

135-3 The Third World: The African Model. A study of the Third World through a focus on Africa as a model; emphasis on the cultural traditions, the impact of the West, and the problems facing Third World nations today.

209-3 Critical Issues in the Black American Experience. Insights into the black American experience. Concepts including race, ethnicity, class, caste, minorities, prejudice, discrimination will be analyzed. Main focus is on exploration of critical socio-economic, political, and cultural themes such as demographic trends; migration and urbanization, political participation and strategies, income and employment, housing, health, education, black family, black religion, law, and justice. Prerequisite: 109 recommended but not required.

215-3 Black American Experience in a Pluralistic Society. (University Core Curriculum) A study and understanding of the evolution of issues of pluralism in contemporary African American society. This course provides an interdisciplinary analysis of ideological and practical problems of racism, integration, class, equity, social institutions as they relate to the Black American experience.

225-3 Social Change in Africa. Examination of the interplay between tradition and modernity in an effort to understand the new Africa. Some of the forces of social change are analyzed. Other topics include African women and the family structure in change and the problems of African development.

230-3 Introduction to Black Sociology. An introductory course which focuses on the concepts of black sociology in order to fill the gaps of traditional sociology pertaining to the black experience. Designed to heighten the student's awareness of the black identity and the sociological phenomena which affect it and acquaints the student with specific sociological problems in the study of Afro-Americans. Prerequisite: 109.

257-1 Black American Studies Choir. Prerequisite: consent of instructor.

311-6 (3,3) Black American History. (Same as History 362.) (a) Black American History to 1865; (b) Black American History since 1865. The role of blacks and contribution in the building of America and the ongoing fight for equality.

314-6 (3,3) History of Africa. (Same as History 387a,b). (a) History of Africa. A study of West African peoples from earliest times to the present; including the era of kingdoms; the role of Islam; African-European relations; colonialism; and African nationalism. (b) History of East-Central Africa. A study of East and Central African peoples from earliest times to the present; including migrations and kingdoms; African-Arab-European relations, colonialism, and African nationalism.

320-3 Leaders of the Black World. A study of black rulers; governmental representatives; activists; and thinkers; both past and present; in Africa; the West Indies; and the United States, with emphasis on the effects of their philosophies on the black world.

330-3 Black American Social Problems. Comparative study of the social problems which afflict black Americans and other minorities and their consequences; including crime and delinquency, mental and emotional disorders, drug addiction, housing conditions, poverty and unemployment, and labor conditions. Prerequisite: consent of instructor.

332-3 Black Americans and the Law. Focuses on the effect of the American legal system upon the Afro-American from slavery to the present; uses theory and knowledge from the law, history and sociology; will explain the historical perspectives of specific laws as well as their effect upon the Afro-American.

333-4 The Black Family. Exploring the myths and realities of the black family from sociological and psychological perspectives through a critical examination of scholarly controversies and research. Prerequisite: junior standing.

336-4 The Black Personality. Examines current areas of interest in the study of the psycho/social characteristics of black Americans. Theoretical and empirical data will be examined. Considers critical issues as cognitive development; self-concept, socialization process and inter-and intra-group relations. Prerequisite: consent of department.

339-3 Black Americans and the Correctional Process. Analysis of selected topics: the prison community and the black inmate; correction education and the black inmate; and the black professional. Prerequisite: 332.

345-3 Law and Civil Liberties. (See Political Science 332.)

350-3 Contemporary Black Drama. Surveys in the works of major and minor writers of contemporary black dramas from *A Raisin in the Sun* to *No Place to Be Somebody*. Explores recent criticism on black theater, and approaches oral and written criticism from the point of view of black aesthetics. Prerequisite: English 201 or consent of department.

355-3 The Black American Novel Since Native Son. The black American novel and its major themes since Richard Wright's *Native Son*. Includes such authors as Baldwin, Petry, Williams, etc. Prerequisite: English 210 and English 325, or at least sophomore standing, or consent of instructor.

357-3 Blacks in the Performing Arts. History of the role of blacks in the performing arts covering dance companies, ballet, folk dance and black dramatists; cinema, in all its forms; radio and television; and music (spirituals, jazz, opera, classics, etc.) Prerequisite: English 325, or consent of department.

360-3 Race and History in the United States. (See History 361.)

399-1 to 5 Independent Study in Black American Studies. Independent study which examines problems and issues not covered in a specific course. Hours and subject matter decided during consultation with a faculty member. Prerequisite: consent of instructor.

430-3 Black Political Socialization. Definitive approach to how people learn about politics focusing on blacks because of their unique experience; i.e., prolonged minority group status. Research oriented, in that, it takes an explanative and predictive approach to produce models of political learning. Not for graduate credit. Prerequisite: 230, junior or senior standing, or consent of department.

465-3 Governments and Politics of Sub-Saharan Africa. (See Political Science 465.)

475-3 Sociological Effects on Black Education. A teacher-oriented course dealing with up-to-date research in black and minority education. The instructor utilizes the findings of current periodicals to present models for understanding and communicating with black children. Not for graduate credit. Prerequisite: Education 303 or consent of department.

490-1 to 3 Cross-Cultural Rehabilitation. (See Rehabilitation 419.) Not for graduate credit.

Black American Studies Faculty

Brown, Joseph A., Associate Professor and Director, Ph.D., American Studies, Yale University, 1984.

Dawson, Nancy J., Assistant Professor, D.A., University of Albany, State University of New York, 1995.

Business and Administration (College, Courses)

Courses (BUS)

259-1 to 6 Intern-Work Experience. Current practical experience in business or other work directly related to coursework in a College of Business and Administration program and to the student's educational objectives may be used as a basis for granting credit in the college. Credit is given when specific program credit cannot be granted and may only be used for free elective or general elective credit. Credit is sought by petition and must be approved by the dean before registration. Mandatory Pass/Fail. Prerequisite: College of Business and Administration major with at least twelve hours with a 2.5 grade point average.

291-1 to 6 Individual Study. Supervised work that relates to the students academic programs and career objectives. Enrollment provides access to resources of the entire college. Each student will work under the supervision of a sponsoring staff member. May only be used for free or general elective credit. Credit is sought by petition and must be approved by the dean before registration. Prerequisite: College of Business and Administration major (including pre-business) with at least twelve hours and with a 2.5 grade point average.

302-1 Business Career Transitions. This one credit, required course is designed to prepare business students to make a successful transition from the academic community to the business and professional world. Students develop a personal career strategy, learn how to conduct a pro-active job search campaign, and explore the types of challenges they are likely to experience in the work world. The class features alumni and business guest speakers as well as videos, case studies and discussion seminars. Not for graduate credit. Course should be taken no later than second semester of junior year. Prerequisite: Management 202 or equivalent.

Business and Administration (Major, Minor)

The Bachelor of Science degree program with a major in business and administration is a college-wide degree which is intended for those students with personal and professional goals which cannot be met by one of the existing majors; i.e., accounting, business economics, finance, management, or marketing, available in the college and in addition have an interest in subject areas offered in other schools and colleges of the University. The program requires students to combine interests - business with an outside field - into a unique program. For example, a student with international business interest can combine business and administration with foreign languages; a student interested in going into the restaurant business can combine course work in food and nutrition with business and administration. The outside field, or secondary concentration, must be consistent with a specific career objective or personal development plan and at least 20 semester hours must be structured to achieve this objective. Individual programs are subject to the approval of the dean of the College of Business and Administration.

Bachelor of Science Degree, College of Business and Administration

University Core Curriculum Requirements	41
Professional Business Core (See Chapter 4)	41

Requirements for Major in Business and Administration	20-23
Secondary concentration approved by the dean	
Business Prefix Electives	12
Approved Electives	3-6
To include one international business course	
Total	120

Business and Administration Suggested Curricular Guide

FIRST YEAR		FALL	SPRING	SECOND YEAR		FALL	SPRING
ENGL 101, 102.....	3		3	ACCT 220, 230.....	3		3
UCC Science	3		3	ECON 241, 240	3		3
UCC Fine Arts	3		-	ACCT/MGMT 208.....	3		-
PSYC 102.....	-		3	CS 200b or IMS 229	-		3
UCC Humanities	3		-	UCC Humanities.....	3		-
UCC Human Health.....	-		2	MGMT 202	-		3
MATH 139	3		-	SPCM 101	3		-
MATH 140	-		4	UCC Integrative Studies	-		3
Total	15		15	Total	15		15
THIRD YEAR		FALL	SPRING	FOURTH YEAR		FALL	SPRING
MGMT 304, 318.....	3		3	FIN 270 ²	3		-
FIN 330	3		-	MGMT 481	-		3
Secondary Concentration ³	3		6	Secondary Concentration ³	6		6
MKTG 304.....	3		-	Business-Prefix	6		-
Business Prefix	-		3	Business-Prefix (Intl Bus)	-		3
UCC Integrative Studies	3		-	Approved Elective	-		3
BUS 302	-		1				
Approved Elective ¹	-		2				
Total	15		15	Total	15		15

¹120 Semester hours are required for graduation. Approved electives should be selected in consultation with academic advisor to meet this requirement.
²The combination of Finance 280 (Business Law I) and Finance 380 (Business Law II) may be substituted for Finance 270 and is highly recommended for Accounting majors.
³Major option, Major specialization or Secondary concentration.

Minor

A minor in Business and Administration consists of a minimum of 15 semester hours, including Accounting 220, 230, Finance 330, Management 304 and Marketing 304. All prerequisites for these classes must also be satisfied. At least nine of the fifteen semester hours must be taken at Southern Illinois University Carbondale. An advisor within the College of Business and Administration must be consulted before selecting this field as a minor.

Courses (BA)

- 410-3 Financial Accounting Concepts.** Basic concepts, principles, and techniques used in the generation of accounting data for financial statement preparation and interpretation. Asset, liability, equity valuation and income determination are stressed. Prerequisite: Enrollment in M.B.A. program or consent of department; M.B.A. program computer ability foundation requirement met.
- 420-3 Production/Operations Management.** A survey of the design, operation, and control of systems that produce goods and services. Topics include forecasting, production planning, facility location and layout, inventory management, scheduling and quality control. Prerequisite: enrollment in M.B.A. program or consent of department.
- 426-3 Managerial Economics.** Develops conceptual framework for business decision-making with emphasis on demand, costs, prices, and profits. Prerequisite: enrollment in M.B.A. program or consent of department.
- 430-3 Business Finance.** An introductory course combining both a description of the structure of business financing and an analysis of functional finance from a managerial viewpoint. Prerequisite: enrollment in M.B.A. program or consent of department; 410, Educational Psychology 506, and M.B.A. program computer ability foundation requirement met, or equivalent.
- 440-3 The Management Process.** Analysis of management theories and the administrative process. Specific managerial activities are analyzed and discussed. Functional relationships in administered organizations are explored. Prerequisite: enrollment in M.B.A. program or consent of department.
- 450-3 Introduction to Marketing Concepts.** An overview of the role of marketing within an economic system and of the major marketing activities and decisions within an organization. Emphasis is on developing an understanding of the marketing process. Prerequisite: enrollment in M.B.A. program or consent of department.
- 452-3 Operations Research.** A survey of operations research techniques with emphasis on problem formulation, model building, and model solution. Topics include mathematical programming, waiting-line models,

simulation, and decision theory. Prerequisite: enrollment in the M.B.A. program or consent of department; 451, Educational Psychology 506, and M.B.A. program computer ability foundation requirement met or equivalent.

470-3 Legal and Social Environment. An overview of the legal, social, and ethical dimensions which influence business with particular attention to the role of law as a control factor of society in the business world. Prerequisite: enrollment in M.B.A. program or consent of department.

Business Economics (Major)

The business economics major offered through the College of Business and Administration emphasizes the application of economic concepts and the use of critical analysis to the solution of economic and managerial problems.

This undergraduate program is an excellent general preparation for future managerial and staff assignments in a variety of business and public organizations. The program also prepares students for graduate study in economics as well as for the Master of Business Administration (MBA) degree.

Those students who desire professional careers as business and managerial economists are advised to plan to complete one to four years of postgraduate study.

Bachelor of Science Degree, College of Business and Administration

University Core Curriculum Requirements	41
Professional Business Core (See Chapter 4)	41
Requirements for Major in Business Economics	21
Economics 340, 341	6
Finance 361 and 462 or 463	6
Three courses from the following list, two of which must be in economics:	9
Economics 310, 329, 330, 436, 443, 465	
Accounting 331, 341, 471	
Finance 331, 464	
Management 345, 352	
Marketing 390, 435	
Approved Electives	17
To include one international business course.	
Total	120

Business Economics Suggested Curricular Guide

FIRST YEAR			SECOND YEAR		
	FALL	SPRING		FALL	SPRING
ENGL 101, 102	3	3	ACCT 220, 230.....	3	3
UCC Science	3	3	ECON 241, 240.....	3	3
UCC Fine Arts.....	3	-	ACCT/MGMT 208	3	-
PSYC 102.....	-	3	CS 200b or IMS 229.....	-	3
UCC Humanities	3	-	UCC Humanities.....	3	-
UCC Human Health.....	-	2	MGMT 202.....	-	3
MATH 139, 140.....	3	4	SPCM 101.....	3	-
			UCC Integrative Studies	-	3
Total.....	15	15	Total.....	15	15
THIRD YEAR			FOURTH YEAR		
	FALL	SPRING		FALL	SPRING
MGMT 304, 318.....	3	3	Fin 270 ²	3	-
ECON 340, 341	3	3	MGMT 481	-	3
FIN 330, 361.....	3	3	ECON ³	3	3
MKTG 304.....	3	-	FIN 462 or 463	-	3
Approved Elective ¹	-	5	Major Option ³	3	-
UCC Integrative Studies ¹	3	-	Approved Elective ¹	6	3
BUS 302.....	-	1	International Business ¹	-	3
Total.....	15	15	Total.....	15	15

¹120 semester hours are required for graduation. Approved electives should be selected in consultation with academic advisor to meet this requirement.

²The combination of Finance 280 (Business Law I) and Finance 380 (Business Law II) may be substituted for Finance 270 and is highly recommended for Accounting majors.

³Major option, Major specialization or Secondary concentration.

Chemistry and Biochemistry (Department, Major [Chemistry], Courses)

The Department of Chemistry and Biochemistry offers two degree programs with a major in chemistry. First there is the Bachelor of Science degree in the College of Science. This degree is for those who wish to prepare for graduate study in chemistry or who will become professional chemists. Within this degree there are two options. A more rigorous program of study carries American Chemical Society (ACS) certification, while a program with fewer hours does not. Although students are encouraged to seek ACS certification it should be understood that ACS certification is not a requirement for graduate study or employment as a chemist.

The Bachelor of Arts degree in the College of Science is designed primarily for students who wish to complete a major in chemistry but will specialize in areas related to it. Students complete a group of core courses, along with additional courses that will lead to a specialization in biochemistry, business, environmental or forensic chemistry.

A knowledge of computer programming is recommended for all majors in chemistry.

The department enforces the following retention policy: A grade point average of at least 2.0 in chemistry courses is required on completion of the first 22 hours of formal chemistry coursework. Any exception will require written approval of the chair of undergraduate advisement. A minimum gpa of 2.0 in chemistry coursework is needed in order for a student to receive a degree in Chemistry. Students will meet with a departmental advisor each semester for planning, monitoring progress and approval of courses appropriate to their goals and interests.

Students taking a laboratory course will be required to purchase a notebook or a laboratory exercise book. Students are required to wear approved safety glasses in the laboratory at all times. All students enrolled in a chemistry class that includes a laboratory session will be assessed a breakage charge for all glassware broken. The amount assessed will be based on actual replacement costs. A fee will also be assessed if a student fails to check in their locker at the end of the semester.

Students wishing more detailed information should contact the undergraduate adviser, Department of Chemistry and Biochemistry, Southern Illinois University Carbondale, Carbondale, IL 62901.

Bachelor of Science Degree, College of Science

<i>University Core Curriculum Requirements</i>	41
<i>College of Science Academic Requirements</i>	11-14
Supportive Skills: a minimum of six hours from among: Chinese 120, Classics 130, 133, French 123, German 126, Japanese 131, Russian 136, Spanish 140, Computer Science 200, 210, Mathematics 483, 484 and English 291. If a foreign language is chosen, two semesters of one language must be taken to satisfy the requirement	6-8
Mathematics 108 and 109 or 111	(3) + 2-3
Biological Sciences (not Core Curriculum)	(3) + 3
<i>Requirements for Major in Chemistry</i>	56-57
Chemistry 200, 201, 210, 211, 230, 340, 341, 342, 343, 350 (or 451a), 411, 434, 461, 462, 466a,b	(3) + 37-38
Mathematics 150, 250 and either 221 or 305	11
Physics 205a,b; 255a,b	8
<i>Electives</i>	8-12
<i>Total</i>	120

AMERICAN CHEMICAL SOCIETY CERTIFICATION:

To receive certification by the ACS a student must complete the following additional courses: Chemistry 396 (2) or 496 (2) and any two courses from among 431, 439, 444, 451b and 468; and Mathematics 251. These courses may substitute for electives.

Bachelor of Arts Degree, College of Science

University Core Curriculum Requirements	41
College of Science Academic Requirements	11-14
Supportive Skills: a minimum of six hours from among: Chinese 120, Classics 130, 133, French 123, German 126, Japanese 131, Russian 136, Spanish 140, Computer Science 200, 210, Mathematics 483, 484 and English 291. If a foreign language is chosen, two semester of one language must be taken to satisfy the requirement.	6-8
Mathematics 108 and 109, or 111	(3) + 2-3
Biological Sciences (not University Core Curriculum)	(3)+ 3
Requirements for Major in Chemistry	48-63
Required Core Courses: Chemistry 200, 201, 210, 211, 230, 340, 341, 342, 343, 350, (or 451a), 411, 462, 466a	(3) + 29-30
Mathematics 150	4
Physics 203a,b and 253a,b or 205a,b and 255a,b	8
Required Curriculum Specialization:	(2-3) + 7-21
Biochemistry Specialization	(2)+ 7
For students interested in the biological aspects of chemistry. Required: An additional nine hours at the 300-400 level in biochemistry, microbiology, physiology, plant biology or zoology, chosen in consultation with an adviser in chemistry and approved by the chair of the department. Chemistry 451a,b are strongly recommended in lieu of 350 and three of the additional nine hours above. Chemistry 456 should be substituted for 462. A course at the 300-400 level that includes a lab in a bioscience area is recommended.	
Business Specialization	(3) + 21
For students interested in pursuing a career in chemistry, but with an interest in the business aspects of it such as management, marketing and production, rather than research and development. Required: An additional three hours in chemistry at the 300-400 level, chosen in consultation with an adviser and approval of the chair of the department; Mathematics 250; Accounting 220, 230; Economics 240; Finance 330; Management 304; and Marketing 304.	
Environmental Chemistry Specialization	16
For students interested in chemistry as it relates to air, water and soil in the environment. Required: Chemistry 431 and nine hours from among Chemistry 434, Civil Engineering 310, Mechanical Engineering 416 and Plant and Soil Science 446 (has 240 as a prerequisite); Mathematics 250 and 283 or 483. Mathematics 483 cannot count as a supportive-skills requirement.	
Forensic Chemistry Specialization	13
For students interested in chemistry applied to solving problems encountered in crime labs.	

Required: Chemistry 434, 439, 396-2 (Chemistry 396 will involve research on problems of interest to the State Crime Lab or a formal internship at the State Crime Lab. The latter is subject to availability and approval of the Crime Lab); Mathematics 250.

<i>Electives</i>	<u>2-20</u>
<i>Total</i>	120

Chemistry Suggested Curricular Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
CHEM 200, 201.....	4	-	CHEM 230.....	4	-
CHEM 210, 211.....	-	4	CHEM 340, 341.....	5	-
ENGL 101, 102.....	3	3	CHEM 342, 343.....	-	5
MATH 108, 109.....	3	3	CHEM 350.....	-	4
Fine Arts.....	-	3	MATH 150, 221.....	4	3
Human Health.....	-	2	Humanities.....	-	3
PLB 200 or ZOOL 118.....	4	-	SPCM 101.....	3	-
<i>Total</i>	14	15	<i>Total</i>	16	15
THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
CHEM 461, 462.....	3	3	CHEM 434.....	4	-
CHEM 466a,b.....	1	1	CHEM 411.....	-	3
Humanities.....	3	-	CHEM 444 or 468.....	3	-
MATH 250, 251.....	4	3	CHEM 431.....	-	3
PHYS 205a, 255a.....	4	-	CHEM 396 or 496.....	-	2
PHYS 205b, 255b.....	-	4	CS 200.....	-	3
Social Science.....	-	3	MATH 483.....	4	-
<i>Total</i>	15	14	Integrative Studies.....	3	3
			Social Science.....	3	-
			<i>Total</i>	17	14

Minor

The minor in chemistry requires a minimum of 16 semester hours of chemistry in formal course work at the 200 level or above, including 200, 201, 210, 211 or their equivalents. At least eight of the sixteen hours must be taken at SIUC. A grade point average of at least 2.0 is required in the minor, both in course work taken at SIUC and overall.

Transfer Credit

Credit for a course in chemistry successfully completed at another accredited institution will be transferred to meet major or minor requirements in chemistry at SIUC, subject to the following conditions:

1. The course number must bear a departmental prefix clearly indicating the course is a chemistry (or biochemistry) course.
2. The course must have covered substantially the same material as a course currently offered at SIUC to meet major requirements.
3. Credit for a course completed at a community or junior college is not transferable if the corresponding course at SIUC is offered at the 400-level.
4. All transfers of credit to meet major or minor requirements in chemistry must be explicitly approved by the Department of Chemistry and Biochemistry.

Courses (CHEM)

106-3 Chemistry and Society. (University Core Curriculum) [IAI Course: P1 903L] Exploration of the many implications that chemistry has upon modern society. Topics include air and water quality, global warming, acid rain, fossil, solar and nuclear fuels, nutrition and drugs. Three lectures per week except that every other week a three-hour lab is substituted for one of the lectures that week.

120-2 Introductory General Chemistry. A preparation chemistry course for Chemistry 200. For students without a year of high school chemistry or for those who feel their chemistry background is inadequate. Emphasis is placed on elementary concepts, dimensional analysis and problem solving skills. A scientific calculator is required. Two lectures per week.

140-8 (4,4) Chemistry. [IAI Course: P1 902L] A two-semester course of general, organic and biological chemistry designed to meet the needs of students of nursing, dental hygiene, physical therapy, other allied health programs, agriculture, forestry, home economics and other majors with comparable requirements. This course

does not satisfy prerequisite requirements for other courses offered by the Department of Chemistry and Biochemistry. It is not applicable to a major in chemistry. Chemistry 140a can serve as a preparation for 200 for students without a year of high school chemistry or for those who feel their background is inadequate. Three lectures and one three-hour laboratory per week.

200-3 Introduction to Chemical Principles. [IAI Course: P1 902, EGR 961, BIO 906] A first semester chemistry course for students majoring in scientific, pre-professional, engineering or technological programs. Atomic structure, molecular structure, bonding, solutions, stoichiometry, gases, liquids and solids. Three lectures per week. Prerequisite: one year of high school chemistry or Chemistry 120 or 140a; completion or concurrent enrollment in Chemistry 201; two years high school algebra or concurrent enrollment in Mathematics 108.

201-1 General Chemistry Laboratory I. [IAI Course: P1 902L, EGR 961] Synthesis and exploration of the properties of compounds and elements. One three-hour laboratory per week. Prerequisite: completion of or concurrent enrollment in Chemistry 200. If Chemistry 200 is dropped, the laboratory course must also be dropped.

210-3 General and Inorganic Chemistry. [IAI Course: BIO 907] Second semester chemistry for science, engineering and pre-professional majors. Rates of reaction, chemical equilibrium, acid-base equilibria, pH, electrochemistry, transition metals, properties of inorganic compounds, nuclear chemistry and organic chemistry. Three lectures per week. Prerequisite: 200, 201; completion of or concurrent enrollment in 211.

211-1 General Chemistry Laboratory II. Continued synthesis and exploration of properties of compounds and elements. Prerequisite: 200, 201; completion of or concurrent enrollment in 210. If 210 is dropped, 211 must also be dropped.

230-4 Quantitative Analysis. A one-semester course in analytical chemistry that emphasizes quantitative analyses based on wet-chemical methods and modern instrumentation. Topics include statistics, sampling strategy, gravimetry, multiple chemical equilibria, titrimetry, potentiometry, voltammetry, absorbency and fluorescence spectroscopies, gas and liquid chromatographies, and capillary electrophoresis. Two lectures and two laboratories per week. Ability to solve simple algebraic equations and familiarity with logarithms essential. Prerequisite: 210 and 211.

340-3 Organic Chemistry I. [IAI Course: BIO 908] Introduction to the chemistry of carbon-based compounds. Intended to introduce students to functional groups; their structure properties and reactivity. Three lectures per week. Prerequisite: 200.

341-2 Organic Chemistry Laboratory I. An introductory lab course based upon a problem-solving approach to organic chemistry. Students will identify and derivative unknowns using modern organic techniques. One one-hour lecture and one four-hour laboratory per week. Prerequisite: 200, 201 and 340 or taken concurrently.

342-3 Organic Chemistry II. [IAI Course: BIO 909] A second semester course in organic chemistry emphasizing synthetic and mechanistic aspects of functional groups. Three lectures per week. Prerequisite: 340, concurrent enrollment in 343 recommended.

343-2 Organic Chemistry Laboratory II. A second organic laboratory course based upon a synthetic approach. Students will learn modern synthetic organic chemistry techniques including modern spectroscopic techniques. One one-hour lecture and one four-hour laboratory per week. Prerequisite: 340, 341 and 342 or taken concurrently.

350-3 to 4 Introductory to Biological Chemistry. Survey of basis elements of biochemistry. Three lectures per week for three hours credit. Enrollment for four hours credit includes a laboratory lecture and one three-hour laboratory. The laboratory lecture is offered on alternate weeks with the laboratory session. Prerequisite: 340, 341.

386-2 (1, 1) Problem Solving Workshop. A two semester workshop sequence for chemistry majors. One two-hour workshop per week per semester. (a) Introduction to problem solving strategies with examples and practice problems. Prerequisite: chemistry major, Chemistry 200. (b) Advanced problem solving with general applications. Prerequisite: 386a.

396-1 to 6 (1-2 per semester) Chemical Problems. Chemical investigations under the direction and supervision of a faculty member culminating in a written report. Student may take 1 - 2 hours per semester and a total of 6 hours. Prerequisite: consent of instructor and one semester of chemistry laboratory.

411-3 Intermediate Inorganic Chemistry. Fundamentals of inorganic chemistry, covering bonding and structure, coordination compounds and the chemistry of some familiar and less familiar elements. Three lectures per week. Prerequisite: 456 or 462 or concurrent enrollment.

431-3 Environmental Chemistry. Chemical principles applied to the environment and environmental problems. Chemical kinetics, thermodynamic, and equilibrium concepts as they relate to the atmosphere, water, and soil will be discussed to include current problems of pollutants, pollutant evaluation, and pollutant remediation. Discussion of methods for the chemical analysis of environmental samples will also be included. Prerequisite: 230 and 340.

434-2 or 4 Instrumental Analytical Chemistry. Theory and practice of instrumental measurements, including emission and absorption spectroscopic, electroanalytical, and chromatographic methods, and an introduction to applied electronics. Two lectures and two three-hour laboratories per week for four credits. Enrollment for two credit hours is restricted to graduate students in the Department of Chemistry and Biochemistry who are advised to take instrumental analysis. Prerequisite: one semester of physical chemistry or concurrent enrollment in 461 or 462; 230 or consent of instructor.

439-3 Forensic Chemistry. A one-semester course in forensic methods of analysis offered in conjunction with the Illinois State Police Forensic Science Laboratory. Topics include identification and quantitation by gas chromatography (GC), GC/mass spectrometry (GC/MS) of drugs and arson residues, selected ion monitoring by GC/MS, Fourier-transform infrared spectroscopy (FTIR) and GC/FTIR of drugs, scanning electron microscopy, energy dispersive X-Ray analysis of paints and metals, X-Ray diffraction of inorganics, and UV spectroscopy. One lecture by SIUC faculty and two labs directed by forensic scientists at the Forensic Science

Laboratory per week. Those enrolled must submit to background checks due to presence of sensitive materials. Enrollment limited to 3-4 students per class; students with high academic standing considered. Prerequisite: 434 and instructor consent.

444-3 Intermediate Organic Chemistry. A transitional course between introductory and graduate level chemistry. The chemistry of carbon compounds based upon a mechanistic approach will be discussed. Three lectures per week. Prerequisite: 340, 342 or one year of organic chemistry.

451-6 (3,3) Biochemistry. (Same as Biochemistry 451 and Molecular Biology, Microbiology and Biochemistry 451.) (a) Chemistry and function of amino acids, proteins, and enzymes; enzyme kinetics; chemistry, function and metabolism of carbohydrates; citric acid cycle; electron transport and oxidative phosphorylation. (b) Chemistry, function and metabolism of lipids; nitrogen metabolism; nucleic acid and protein biosynthesis; metabolic regulation. Three lectures per week. Must be taken in a,b sequence. Prerequisite: one year of organic chemistry.

455-4 Biochemistry Laboratory. Modern biochemical laboratory techniques for isolation, purification, and characterization of constituents of living cells and for investigations of pathways, kinetics, energetics, and regulatory mechanisms related to metabolism and enzymatic activity. One lecture and eight hours of laboratory per week. Prerequisite: 451a and 230 or concurrent enrollment.

456-3 Biophysical Chemistry. (Same as Biochemistry 456 and Molecular Biology, Microbiology and Biochemistry 456.) A one semester course in biophysical chemistry intended for biochemists and molecular biologists. Emphasis will be on solution thermodynamics, kinetics, and spectroscopy applied to biological systems. Prerequisite: 340 and 342, 451a or concurrent enrollment, Mathematics 141 or 150.

461-3 Quantum Mechanics and Spectroscopy. An introduction to quantum mechanics and spectroscopy. Prerequisite: Mathematics 221 or 305 or concurrent enrollment.

462-3 Classical Physical Chemistry. An introduction to chemical, statistical thermodynamics and kinetics. Prerequisite: Mathematics 150; Mathematics 250 recommended.

466-2 (1,1) Physical Chemistry Laboratory. A two semester laboratory sequence. One three hour laboratory per week per semester. (a) Experiments relating to topics covered in 462. Prerequisite: 462 or 456 or concurrent enrollment. (b) Experiments relating to topics covered in 461. Prerequisite: 461 or concurrent enrollment.

468-3 Application of Symmetry to Chemistry. The concepts of symmetry elements, groups and character tables will be taught. Symmetry will be applied to molecules in order to simplify and characterize their wave functions and vibrational frequencies. Prerequisite: 461 or consent of instructor.

489-1 to 3 Special Topics in Chemistry. Prerequisite: consent of instructor and of chair.

496-1 to 8 Undergraduate Research — Honors. Introduction to independent research under the direction of a faculty member culminating in a written report. Not for graduate credit. Prerequisite: a 3.0 grade point average, five semesters of chemistry laboratory including one semester of physical chemistry, consent of instructor and department chair.

Chemistry and Biochemistry Faculty

Arnold, Richard T., Professor, *Emeritus*, Ph.D., University of Illinois, 1937.

Bausch, Mark J., Associate Professor, Ph.D., Northwestern University, 1984.

Beyler, Roger E., Professor, *Emeritus*, Ph.D., University of Illinois, 1949.

Caskey, Albert L., Associate Professor, *Emeritus*, Ph.D., Iowa State University, 1961.

Chen, Shaowei, Assistant Professor, Ph.D., Cornell University, 1996.

Dave, Bakul C., Assistant Professor, Ph.D., University of Houston, 1993.

Davis, Joe M., Associate Professor, Ph.D., University of Utah, 1985.

Dyer, Daniel, Assistant Professor, Ph.D., University of Colorado at Boulder, 1996.

Guyon, John C., Professor, *Emeritus*, Ph.D., Purdue University, 1961.

Hadler, Herbert I., Professor, *Emeritus*, Ph.D., University of Wisconsin, 1952.

Hinckley, Conrad C., Professor, *Emeritus*, Ph.D., University of Texas, 1964.

Koropchak, John A., Professor, Ph.D., University of Georgia, 1980.

Koster, David F., Professor, Ph.D., Texas A & M University, 1965.

Meyers, Cal Y., Distinguished Professor, *Emeritus*, Ph.D., University of Illinois, 1951.

Neckers, J. W., Professor, *Emeritus*, Ph.D., University of Illinois, 1927.

Phillips, John B., Professor and *Chair*, Ph.D., University of Arizona, 1977.

Scheiner, Steven I., Professor, Ph.D., Harvard University, 1976.

Schmulbach, C. David, Professor, *Emeritus*, Ph.D., University of Illinois, 1958.

Smith, Gerard V., Professor, Ph.D., University of Arkansas, 1959.

Trimble, Russell F., Professor, *Emeritus*, Ph.D., Massachusetts Institute of Technology, 1951.

Tyrrell, James, Professor, Ph.D., University of Glasgow, 1963.

Van Lente, Kenneth A., Professor, *Emeritus*, Ph.D., University of Michigan, 1931.

Vermeulen, Lori A., Assistant Professor, Ph.D., Princeton University, 1994.

Wotiz, John H., Professor, *Emeritus*, Ph.D., Ohio State University, 1948.

Cinema and Photography (Department, Major, Courses)

The major in cinema and photography provides undergraduate students with experience and background in the history, theory, and practice of cinematic and photo

graphic communication and expression. The program is structured to make available a foundation for professional, fine arts, and educational careers in cinema and photography; to explore the social, critical, and ideological implications of still and motion pictures; and to provide opportunities for study of and experimentation with both cinema and photography as media for communication and personal expression.

The major requires a minimum of 38 hours in cinema and photography coursework, including the required courses in the department. Students may tailor coursework selection to meet specific areas of emphasis: cinema production, cinema studies, fine arts photography, or professional photography. Course work in digital technologies is also available.

Students are urged to declare their major as soon as possible. To be admitted to the major, a student must have a grade point average of C or better. In order to remain in the major, each student must maintain an overall grade point average of at least a C and at least a C average for all cinema and photography coursework. Grades below C in cinema and photography courses will not be accepted as fulfilling minimum major requirements. Cinema and photography courses in which students have received grades of D, F, AU, or INC may not be used to satisfy prerequisite requirements for other cinema and photography courses.

Courses in cinema and photography have limited enrollment, especially advanced courses. Not all courses are offered each semester. Admission to certain cinema and photography courses is restricted, and permission must be obtained prior to registration. Permission to register for some courses is based upon submission of photographic portfolios, proposals or films. Students are encouraged to plan their course scheduling well in advance to ensure necessary prerequisites and fulfillment of major requirements.

Students may design their own programs of study within the requirements for graduation. The department recommends that students choose an area of emphasis to give a sense of direction to their studies. Students interested in cinema production are encouraged to enroll in 349, 355, 356, 360, 368, 452, 455 and 456, 470b, 472, and nine hours of cinema history courses; cinema studies, 349, 355, 356, 360, 368, 449, 461, 462, 463, 466, 467, 470a, and 499b; fine arts photography, 310, 311, 320, 322, 401, 402, 420, 421, 422, 425, 426, 470c and 471; applied photography, 310, 311, 320, 322, 401, 402, 404, 405, 406, 407 and 408; photojournalism, 310, 311, 320, 322, 407, 408 and Journalism 300, 310, and 311.

Cinema and Photography 498 or 499 or an equivalent is required of all majors. This senior thesis will consist of the preparation of a portfolio, film, screenplay, research or critical paper under the supervision of a cinema and photography faculty member. A copy of the thesis may be required by the department.

Students provide photographic materials for all cinema and photography production courses. In still photography production courses, students supply their own film, photographic paper, certain specialized chemicals, and a fully adjustable 35mm or 120 roll film camera. Some students have found that owning additional items of equipment is advantageous. A fee for laboratory materials is charged for each still photography production course in which the student enrolls. In cinema production courses, students provide their own film, processing, recording materials, and editing supplies. In courses which involve the screening of a number of films, there is a \$10 screening fee, and many cinema courses have an equipment usage fee.

The University reserves the right to retain examples of the work of each student in each photography class, to make and retain prints of all films made as part of course work, and to retain copies of student papers. Such photographs, films, or papers become part of a permanent department collection.

No more than nine hours from a combination of the following courses may count toward the first 38 hours in the cinema and photography major: 491, 495, 497.

Electives, required for the major in cinema and photography, are defined as coursework outside the minimal University Core Curriculum requirements and not offered for major credit in the department. There is no required minor.

Bachelor of Arts Degree, College of Mass Communication and Media Arts

<i>University Core Curriculum Requirements</i>	41
<i>Mass Communication and Media Arts College Requirements</i>	6
Mass Communication and Media Arts 201, 202	
<i>Requirements for Major in Cinema and Photography</i>	38-54
Either Cinema and Photography 310 and 311 or 360 and 368	6
Either Cinema and Photography 320 and 322 or 355 and 356	8
Cinema and Photography courses numbered 400 to 499	24
Must include 498 or 499 or its equivalent.	
Cinema and Photography electives	0-16
<i>Electives</i>	19-35
<i>Total</i>	120

Cinema And Photography Suggested Curricular Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
ENGL 101,102.....	3	3	CP 310 or CP 360.....	3	-
MCMA 201,202	3	3	CP 311 or CP 368.....	-	3
SPCM 101.....	3	-	CP 320 or CP 355.....	4	-
Mathematics	-	3	CP 322 or CP 356.....	-	4
Core Disciplinary Studies	6	6	Core Disciplinary Studies	5	6
			Core Integrative Studies.....	3	3
<i>Total</i>	15	15	<i>Total</i>	15	16
THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
CP 400-Level.....	6	6	CP 400-Level.....	6	6
Electives	9	9	Electives.....	9	8
<i>Total</i>	15	15	<i>Total</i>	15	14

Courses (CP)

101-3 History and Analysis of Cinema. (University Core Curriculum) [IAI Course: F2 905] An introduction to world cinema. To include film as entertainment, art, personal expression, education and cultural/ideological expression. Modes of film including narrative, documentary, animation and experimental are studied.

220-2 Introduction to Photography. An introduction to the basic technical information and black and white laboratory processes. The emphasis is upon an exploration of the technical process rather than photographic vision. Students will have hands-on experience in the labs. Students will supply their own film and paper. Laboratory fee: \$15.

225-3 Photography for Design Majors. An introduction to the principles of photographic language and techniques specifically tailored to the need of the art and design student. Will cover the basic photographic skills as well as specific techniques of interest to art and design students. Students will supply their own camera, materials and some chemicals. Laboratory fee: \$15.

257-1 to 6 Work Experience. Used to recognize work experience related to the student's educational objective. One to six hours of credit may be applied toward graduation requirements following departmental evaluation and approval. Mandatory Pass/Fail. Prerequisite: consent of the department.

310-3 History of Still Photography. A survey of the important images, ideas, people, and processes that make up the history of still photography. Covers from 1839 to the mid-twentieth century. Students purchase texts.

311-3 Contemporary Photography. A survey of contemporary photographers, their ideas, and the influences of their work upon culture. Covers from mid-twentieth century to the present. Students may be required to purchase texts. Completion of 310 may be helpful, but is not required.

320-4 Basic Photography. [IAI Course: ART 917] An introduction to black and white still photography; its materials, processes and vision. Designed to give technical knowledge and to explore visual perception. Students must have fully adjustable camera, may purchase texts, and will supply their own materials and some chemicals. Laboratory fee: \$15. Prerequisite: Non-majors by consent of department.

322-4 Color Photography. Introduction to color still photography, its materials, processes, and vision. Students purchase materials and may purchase texts. Laboratory fee: \$15. Prerequisite: 320 or equivalent and consent of department.

349-3 The Cinema. The cinema as a communicative and expressive media. Study of film types illustrated by screenings of selected films. Screening fee: \$10.

355-4 Film Production I. Basic techniques for filmmaking. Production of Super 8 motion pictures. Students purchase texts, film stock and processing. Requires access to Super 8 camera and cassette recorder. Non-majors by consent of department. Equipment usage fee: \$10.

356-4 Film Production II. Techniques of 16mm double system sound film production. Production of films by individuals or crews. Students purchase texts, film stock, processing, sound materials and laboratory services. Equipment usage fee: \$50. Prerequisite: 355 and consent of department.

360-3 Film Analysis. The relationships among structure, style and meaning in all types of films. Students purchase texts. Screening fee: \$10.

368-3 Introduction to Cinema Theory. A survey of cinema theories propounded by figures such as Munsterberg, Arnheim, Eisenstein, Bazin, Kracauer, and important modern theorists. The course covers the wide range of major attempts to derive the essence of cinema. Films that exemplify or raise theoretical issues are screened. Students purchase texts. Screening fee: \$10. Prerequisite: 360.

401-3 Large Format Photography. Introduction to the aesthetics and techniques of large format (sheet film cameras) photography with emphasis on personal expression and commercial/professional applications. Students purchase texts and provide photographic materials and chemicals. \$15 for additional laboratory materials. Prerequisite: 320 and consent of department.

402-6 (3, 3) Sensitometry. An advanced course taught in two semesters covering the technical and visual applications of the black and white process. The initial semester deals primarily with controls over the photographic negative, the zone system, density parameters and practical chemistry. The second semester encompasses all the factors related to the production of the silver print. Topics covered are materials, chemistry, equipment and the aesthetics of photographic printing. The two semesters are sequential and must be taken in order. Laboratory fee: \$15. Prerequisite: 320 and permission of department.

404-3 Introduction to the Studio. Problems and possibilities in the aesthetics and techniques of studio photography: lighting, visual perception, environment, history, theory. Students purchase texts and provide photographic materials. \$15 laboratory fee. Prerequisite: 320 and consent of department.

405-3 Applied Photography I. An introduction to the theory, practice and professional responsibilities of contemporary commercial photography. Students produce a portfolio that surveys commercial applications. Areas of study include advertising, editorial and industrial components. Students provide materials and may purchase additional equipment. Laboratory fee: \$15. Prerequisite: 322 and consent of the department.

406-3 Applied Photography II. An advanced investigation into the principles outlined in 405. Students pursue a specific portfolio application throughout the course. Students provide materials and may purchase additional equipment. Laboratory fee: \$15. Prerequisite: 405 and consent of the department.

407-3 Photography and the Mass Media. Exploration of the use, context, and meaning of photography in the mass media. The photograph as a communications tool will be evaluated along with the role and responsibility of the photojournalist. Students will apply theoretical concepts through group and individual assignments. Students purchase texts and provide photographic materials. \$15 laboratory fee. Prerequisite: 320 and consent of department.

408-3 Documentary Photography: Method, Format, and Distribution. Exploration of the techniques, history, and contemporary context of documentary photography. Audience, publication, and distribution of documentary projects will be addressed. Each student will produce an in-depth documentary photographic project. Students purchase texts and provide photographic materials. \$15 laboratory fee. Prerequisite: 322 and consent of department.

420-3 Experimental Camera Techniques. Experimental approaches to the creation of photographic images in the camera. Students provide materials and may be required to purchase texts. Laboratory fee: \$15. Prerequisite: 322 and consent of department.

421-3 Experimental Darkroom Techniques. Experimental darkroom manipulations of the straight camera image. Students provide materials and may purchase texts. Laboratory fee: \$15. Prerequisite: 322 or consent of department.

422-3 Advanced Color Photography. Advanced study and production of color photographs with emphasis on experimental techniques using Kwik Proof, and other forms of photo-mechanical reproduction. Students provide materials and may purchase texts. Laboratory fee: \$15. Prerequisite: 322 and consent of department.

425-3 to 9 (3,3,3) Studio Workshop. An intensive workshop focusing on current trends in photography. Topics have included landscape photography, architectural photography, environmental portraiture, and image-making, among others. Students provide photographic materials and may purchase texts. May be taken three times if topic differs. Laboratory fee: \$15. Prerequisite: 322 and consent of department.

426-3 Non-Silver Photography. Intensive introduction to hand-applied emulsions such as cyanotype, Vandyke brownprinting, gum printing, etc. Students purchase materials and may purchase texts. Laboratory fee: \$15. Prerequisite: 322 and consent of department.

449-3 Survey of Film History. Intensive study of major historical periods of narrative cinema, including technological developments, national cinema movements, aesthetic traditions, economic and political determinations and concerns of film historiography. Prior completion of 360 is strongly recommended. Screening fee: \$10.

452-3 Screenwriting. A study of screenplay structure, from idea development through first draft, for feature-length, classically-structured scripts and short subjects. Includes outlines/treatments, scene work, character development and formatting. Students will be required to work on original scripts. Prerequisite: 355, junior standing or consent of the instructor.

454-3 Animated Film Production. Practical course for visual expression exploring various animation techniques: developmental, filmographic, rear lit, cut out, line, cel, etc. Students purchase texts, art supplies, film materials, and processing. Equipment usage fee \$10. Prerequisite: 355 and/or consent of department.

455-3 Film Production III. Advanced production by individuals or crews of 16mm sound films from pre-production through shooting. Intensive study of budgeting, production planning, scripting, casting, location and studio shooting techniques, equipment rental, lighting and double system sound filming. Students provide film stock, processing and sound materials. Equipment usage fee \$50. Prerequisite: 356 and consent of department.

456-3 Film-Production IV. Continuation of 455 through post production to a first answer print. Intensive study of editing, sound mixing, laboratory procedures and distribution. Students provide editing and sound materials and are responsible for laboratory costs. Equipment usage fee: \$50. Prerequisite: 455 and consent of department.

461-3 History of the Documentary Film (1875-1960). The development of the non-fiction film. This study will include early sequential photography, the beginnings of cinema, early ethnographic film, institutional documentaries, The Film Front, World War II documentaries, the Free Cinema Group and close with early works in the direct cinema style. Screening fee: \$10. Student purchase texts.

462-3 History of the Documentary Film (1960-Present). An examination of styles in documentary film based upon historical precedent, technological changes, responses to theoretical and ethical questions, and the influences of theatrical distribution and television. Screening fee: \$10. Students purchase texts. Completion of 461 recommended.

463-3 History of the Experimental Film. Study of experimentation in cinema from the turn of the century to contemporary avant-garde films. Student purchase texts. Screening fee: \$10.

466-3 to 6 (3,3) Film Styles and Genres. Intensive study of a specific body of films grouped by similarities in style, genre, period, or cultural origin. Emphasis on historical, theoretical, and critical issues. Topics vary. Sample topics: the science fiction film, the French new wave, Third World cinema, Surrealism in film. May be taken two times if topic differs. Prior completion of 360 is strongly recommended. Screening fee: \$10.

467-3 to 6 (3,3) Film Authors. Intensive study of the work of one or more film authors (directors, screenwriters, etc.). Emphasis is on historical, theoretical, and critical issues. Topics vary. Sample topics: the films of Alfred Hitchcock, the films of Chantal Akerman, the films of Andrei Tarkovsky. May be taken two times if topic differs. Prior completion of 360 is strongly recommended. Screening fee: \$10.

470-3 to 9 (3,3,3) Advanced Topics. An advanced course concentrating on special topics in cinema and photography. (a) Advanced studies in cinema history/theory. Sample topics: visualizing the body, feminist film theory, surveillance and the cinema. Screening fee: \$10. (b) Advanced topics in film production. Topics offered include motion picture sound workshop and narrative film workshop. Equipment fee: \$50. (c) Advanced studies in photography. Topics offered have included publication and presentation, digital imaging, multi-image, narrative tableau, among others. Laboratory fee: \$15. (d) Advanced studies in interdisciplinary topics. Letter designation may be repeated if topic varies, though no more than six semesters may be counted for graduate credit. Prerequisite: consent of department.

471-3 to 6 (3,3) Problems in Creative Production: Photography. Conceptual exercises involving different aspects of photographic production. Emphasis is placed upon individual creative response to assignments. Topics vary; may be repeated for a total of six credits if topics differ. Students provide photographic materials and chemicals and may purchase texts. Prerequisite: 322 and consent of department.

472-3 to 6 (3,3) Problems in Creative Production: Cinema. An intensive examination, through readings, screenings, and filmmaking, of a cinematic genre, style, movement, or technical challenge. Theory is combined with practice, resulting in a group film production. Previous problems studied have been the pseudo-documentary, optical printing, 35mm filmmaking and film as performance. Topics may vary; may be repeated for a total of six credits. Equipment usage fee: \$50. Prerequisite: consent of department.

491-1 to 9 Individual Study in Cinema or Photography. Research in history, theory or aesthetics. Usually taken 3, 3, 3. Not more than 9 semester hours of 491, 495, and 497 combined may count toward the first 38 hours for the B.A. in cinema and photography. Not for graduate credit. Prerequisite: consent of department.

492-1 to 3 Practicum. Practical experience in the presentation of photographic theory and procedures. Not for graduate credit. Prerequisite: consent of department. Mandatory Pass/Fail.

495-1 to 12 Internship. Credit for internship with professional film or photographic units. Not more than 9 semester hours of 491, 495 and 497 combined may count toward the first 38 hours for the B.A. in cinema and photography. Not for graduate credit. Prerequisite: consent of department. Mandatory Pass/Fail.

497A-1 to 9 Projects in Cinema. Individual or crew projects in motion picture production. Not more than 9 semester hours of 491, 495, and 497 combined may count toward the first 38 hours for the B.A. in cinema and photography. Not for graduate credit. Equipment usage fee: \$50. Prerequisite: consent of department.

497B-1 to 9 Projects in Photography. Individual projects in still photography. Not more than 9 semester hours of 491, 495 and 497 combined may count toward the first 38 hours for the B.A. in cinema and photography. Not for graduate credit. Laboratory fee: \$15. Prerequisite: consent of department.

498-1 Senior Portfolio. Preparation of senior portfolio project. Required of all photography students. To be taken during last year in residence. Mandatory pass/fail. Not for graduate credit.

499A-4 Senior Thesis-Production. Preparation of a film under the supervision of a cinema and photography faculty member. Normally taken during last term in residence, the senior thesis is evaluated by the departmental faculty. The department will retain one copy of all theses. Students interested in producing a film should have completed 355, 356, 368, 452, and nine hours of cinema history courses. Not for graduate credit. Equipment usage fee: \$50. Mandatory Pass/Fail. Prerequisite: consent of department.

499B-4 Senior Thesis-Studies. Preparation of a screenplay, critical or research paper under the supervision of a cinema and photography faculty member. Normally taken during last term in residence, the senior thesis is evaluated by the departmental faculty. The department will retain one copy of all theses. Not for graduate credit. Mandatory Pass/Fail. Prerequisite: consent of department.

Cinema and Photography Faculty

Boruszkowski, Lilly A., Associate Professor, M.F.A., Northwestern University, 1979.

Cocking, Loren D., Assistant Professor, M.A., Ohio State University, 1969.

Covell, Michael D., Assistant Professor, M.F.A., Ohio University, 1975.

Duhig, Susan, Assistant Professor, Ph.D., Cornell University, 1994.

Gilmore, David A., Associate Professor, M.F.A., Ohio University, 1969.

Kolb, Gary P., Professor, M.F.A., Ohio University, 1977.

Logan, Fern, Assistant Professor, M.F.A., School of the Art Institute of Chicago, 1993.

Mercer, John, Professor, Emeritus, University of Nebraska, 1952.

Overturf, Dan, Associate Professor, Chair, M.F.A., Southern Illinois University, 1983.

Paine, Frank, Associate Professor, Emeritus, B.S., Iowa State University, 1950.

Roddy, Jan, Associate Professor, M.F.A., University of Illinois, 1987.

Stawarz, Jean, Assistant Professor, M.F.A., Goodard College, 1997.

Swedlund, Charles A., Professor, M.S., Illinois Institute of Technology, 1961.

Civil Engineering (Department, Major, Courses)

The Department of Civil Engineering offers programs leading to a Bachelor of Science degree in Civil Engineering and a Bachelor of Science degree in Civil Engineering with specialization in Environmental Engineering.

Civil engineering is broad in scope and it encompasses a number of technical disciplines. A civil engineer may deal with research, planning, analysis, design, construction, operation and maintenance of buildings; bridges; dams; harbors; water and power facilities; water works; sewage, nuclear and toxic waste disposal facilities; transportation systems such as highways, railways, waterways, airports and pipelines. The civil engineering program leading to the Bachelor of Science degree at SIUC is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology, the recognized agency for accrediting engineering curricula in the United States. The program is designed to provide the students with the broad educational background essential to modern civil engineering practice with an emphasis in the areas of computational mechanics, geotechnical engineering, hydraulic engineering, structural engineering and surveying engineering. Students may choose to specialize in the area of Environmental Engineering.

Bachelor of Science Degree, College of Engineering Civil Engineering Major

University Core Curriculum Requirements	41 ¹
Foundation Skills	12
English 101, 102	6
Mathematics (substitute Mathematics in major)	3 ¹
Speech Communication 101	3
Disciplinary Studies	23
Fine Arts	3
Human Health	2
Humanities	6 ^{2,3}
Science (substitute Physics and Chemistry in major)	6 ¹
Social Science	6 ^{2,3}
Integrative Studies	6
Multicultural	3
Interdisciplinary	3
Requirements for Major in Civil Engineering	(9) + 87
Mathematics and Basic Sciences	(9) + 23
Mathematical Analysis	(3) + 14
Mathematics 150, 250, 251 and 305	(3) + 11 ²
Engineering 351	3
Basic Sciences	(6) + 9
Physics 205a,b; 255a,b	(3) + 5 ²
Chemistry 200, 201, 210	(3) + 4 ²
Engineering Core Courses	9
Engineering 102, 222a, 300, 361	
Civil Engineering Core Courses	43

Civil Engineering 101, 250, 251, 263, 310, 320, 330, 340, 350a,b, 370a, b, 418, 474, 495a,b and either 442 or 444

Approved Technical Electives 12⁴

Total 128

¹Courses required for the major will apply toward nine hours of University Core Curriculum, making a total of 41 in that area.

²Engineering requirements for University Core Curriculum are more restrictive than those of the University as a whole.

³Transfer students holding an associate degree in a baccalaureate-oriented program must have a sequence of courses in social science or humanities. See departmental advisor for an approved course. Students transferring from other programs or institutions will be required to (a) complete a course sequence in the humanities or social sciences which includes a junior level course or (b) meet the University Core Curriculum requirements for engineering students.

⁴The cumulative engineering design content in each student's program must be at least 18 semester hours. The number of hours of design content in each Civil Engineering course are determined by the Department of Civil Engineering and is identified in the *Civil Engineering Undergraduate Handbook*.

Civil Engineering Suggested Curricular Guide

FIRST YEAR		FALL	SPRING	SECOND YEAR		FALL	SPRING
Core Human Health		2	-	Core Humanities		-	3
Core Humanities		3	-	SPCM 101		-	3
ENGL 101,102		3	3	MATH 251, 305		3	3
MATH 150, 250		4	4	CHEM 210		3	-
CHEM 200, 201		-	4	PHYS 205b, 255b		4	-
PHYS 205a, 255a		-	4	ENGR 222a		2	-
ENGR 102		2	-	CE 251, 263		2	3
CE 250		-	3	CE 350a,b, 340		3	3
CE 101		1	-	CE 310		-	3
Total		15	18	Total		17	18
THIRD YEAR		FALL	SPRING	FOURTH YEAR		FALL	SPRING
Core Social Science		3	3	Core Fine Arts		-	3
ENGR 351		3	-	Core Integrative Studies		3	3
ENGR 361		2	-	Tech Electives		6	6
CE 320, 330		4	3	CE 495a		3	-
CE 370		3	-	CE 495b		-	3
CE 418		-	3	ENGR 300		3	-
CE 442 or 444		-	3				
CE 474		-	3				
Total		15	15	Total		15	15

Civil Engineering Transfer Students Suggested Curricular Guide¹

THIRD YEAR		FALL	SPRING	FOURTH YEAR		FALL	SPRING
CE 350, 370		6	-	ENGR 300		3	-
ENGR 351		3	-	CE 442 or 444		3	-
ENGR 361, CE 340		2	3	Tech Electives		6	6
CE 263		3	-	CE 495a,b		3	3
CE 330		-	3	Electives		-	3
CE 310, 320		3	4				
CE 418		-	3				
CE 474		-	3				
Total		17	16	Total		15	12

¹This assumes that the transfer student satisfied the university core curriculum requirements and has had all of the Mathematics, Chemistry and Physics required for the Civil Engineering curriculum. Furthermore, this assumes that the transfer student has had the equivalent of Engineering 102, 222 and Civil Engineering 250, 251. Community College transfer students should make special note of the requirement that a minimum of 60 semester hours must be completed at a senior institution.

Bachelor of Science Degree, College of Engineering
Civil Engineering Major-Environmental Engineering Specialization

University Core Curriculum Requirements	41 ¹
Foundation Skills	12
English 101, 102	6
Mathematics (substitute Mathematics in major)	3 ¹
Speech Communication 101	3
Disciplinary Studies	23
Fine Arts	3
Human Health	2
Humanities	6 ^{2,3}

Science (substitute Physics and Chemistry in major)	6 ¹
Social Science	6 ^{2,3}
Integrative Studies	6
Multicultural	3
Interdisciplinary	3
Requirements for Major in Civil Engineering	(9) + 87
Mathematics and Basic Sciences	(9) + 23
Mathematical Analysis	(3) + 14
Mathematics 150, 250, 251 and 305	(3) + 11 ²
Engineering 351	3
Basic Sciences	(6) + 9
Physics 205a,b; 255a,b	(3) + 5 ²
Chemistry 200, 201, 210	(3) + 4 ²
Engineering Core Courses	9
Engineering 102, 222a, 300, 361	
Civil Engineering Core Courses	40
Civil Engineering 101, 250, 251, 263, 310, 320, 340, 350a,b, 370a,b, 474, 495a,b and either 442 or 444	
Approved Technical Electives	15 ⁴
The approved electives must include the following: Civil Engineering 410, 411, 415, 419.	
Total	128

¹Courses required for the major will apply toward nine hours of University Core Curriculum, making a total of 41 in that area.

²Engineering requirements for University Core Curriculum are more restrictive than those of the University as a whole.

³Transfer students holding an associate degree in a baccalaureate-oriented program must have a sequence of courses in social science or humanities. See departmental advisor for an approved course. Students transferring from other programs or institutions will be required to (a) complete a course sequence in the humanities or social sciences which includes a junior level course or (b) meet the University Core Curriculum requirements for engineering students.

⁴The cumulative engineering design content in each student's program must be at least 18 semester hours. The number of hours of design content in each Civil Engineering course are determined by the Department of Civil Engineering and is identified in the *Civil Engineering Undergraduate Handbook*.

Civil Engineering-Environmental Engineering Specialization Suggested Curricular Guide

FIRST YEAR		FALL	SPRING	SECOND YEAR		FALL	SPRING
Core Human Health	2	-	-	Core Humanities	-	-	3
Core Humanities	3	-	-	SPCM 101	-	-	3
ENGL 101,102	3	3	3	MATH 251, 305	3	3	3
MATH 150, 250	4	4	4	CHEM 210	3	-	-
CHEM 200, 201	-	4	4	PHYS 205b, 255b	4	-	-
PHYS 205a, 255a	-	4	4	ENGR 222a	2	-	-
ENGR 102	2	-	-	CE 251, 263	2	3	3
CE 250	-	3	3	CE 350a,b, 340	3	3	3
CE 101	1	-	-	CE 310	-	3	3
Total	15	18	18	Total	17	18	18
THIRD YEAR		FALL	SPRING	FOURTH YEAR		FALL	SPRING
Core Social Science	3	3	3	Core Fine Arts	-	-	3
ENGR 351	3	-	-	Core Integrative Studies	3	3	3
ENGR 361	2	-	-	Tech Electives	3	-	-
CE 320, 330	4	3	3	CE 415, 419	3	3	3
CE 370	3	-	-	CE 495a,b	3	3	3
CE 411, 410	3	3	3	ENGR 300	3	-	-
CE 442 or 444	-	3	3				
CE 474	-	3	3				
Total	18	15	12	Total	15	12	12

Courses (CE)

Safety glasses, a hand-held scientific calculator, and textbooks are required of all civil engineering students.

101-1 Introduction to Civil Engineering. Civil Engineering as a profession. Introduction to the use of computers in engineering, in particular DOS and WINDOWS operating systems, word processing, spread sheets,

equation solvers. Introduction to statistics. The Internet (e-mail, FTP, telnet, World Wide Web) and the UNIX operating system. Small design projects emphasizing team design process.

250-3 Mechanics of Rigid Bodies: Statics. Principles of statics; force systems; equilibrium of particles and rigid bodies; trusses; frames; 2-D centroids; friction; moments of inertia; distributed loads; 3-D centroids; internal forces; shear and bending moment diagrams. Mass moment of inertia. Prerequisite: Engineering 102 and Mathematics 150.

251-2 Mechanics of Rigid Bodies: Dynamics. Kinematics and kinetics of particles and rigid bodies. Application of $F=ma$; work-energy and impulse-momentum relationships to the solutions of problems of dynamics. Prerequisite: 250.

263-3 Basic Surveying. An introductory course designed to introduce the principles, theory and equipment of surveying. Development of survey field practices on the earth's surface and subsurface and related computations. Prerequisite: Engineering 102 and Mathematics 111.

310-3 Introduction to Environmental Engineering. Basic engineering aspects of water, land and air pollution and control. Problems, sources and effects of pollution. Major state and federal regulations relating to environmental issues. Laboratory supply fee \$15. Prerequisite: Chemistry 210, Mathematics 250 and concurrent enrollment in or completion of Engineering 102, 222a.

320-4 Soil Mechanics and Foundations. Physical and mechanical properties of soils. Soil improvement, lateral earth pressures. Application of soil mechanics to the design of the foundations of structures, bearing capacity. Design of shallow footings. Laboratory. Prerequisite: 101, 350 and Engineering 222a.

330-3 Civil Engineering Materials. Introduction of cements and aggregates; production and evaluation of concrete structures; mechanical properties of steels and timber; mixing and evaluation of pavement materials; testing of asphalt and masonry. Prerequisite: 101 or concurrent enrollment and 350.

331-3 Transportation Engineering. Introduction to geometric design, earth work, drainage and traffic. Basic design principles for each area and their application to typical problems. Prerequisite: completion of or concurrent enrollment in 330.

340-3 Structures. Loads. Types of structures. Structural materials. Safety. Analysis of statically determinate beams, trusses, and frames under static loads. Influence lines. Moving loads, Cables, Arches, Space trusses, Deflection of beams, trusses, and frames. Moment distribution for beams. Prerequisite: 101 or concurrent enrollment and 350.

350-3 (2,1) Engineering Mechanics of Deformable Bodies. (See Engineering 311) (a) Introduction to the mechanics of deformable bodies. Stress and strain. Torsion. Stresses and deflections in beams and columns. Influence lines. Statically indeterminate beams. Prerequisite: 250, Mathematics 250 and concurrent enrollment in or completion of Engineering 222a. (b) Laboratory. Reports. Lab supply fee. Prerequisite: concurrent enrollment in or completion of 350a.

361-3 Civil Engineering Surveying. Surveying process and theory for Civil Engineering projects, topographic surveys, precise surveys, easements and related computations. Laboratory. Prerequisite: 263.

362-3 Land Surveying. Survey process and theory of land surveying including development of the United States Rectangular System, boundary and retracement surveys, basic survey law, legal descriptions, title search, field monument search and related computations. Laboratory. Prerequisite: 263.

363-3 Control/Construction Surveying. The surveying processes and theory of control surveying, geodesy, global positioning systems, geographic information systems, all types of construction surveying and related computations. Laboratory. Prerequisite: 263.

370-3 (2,1) Engineering Mechanics of Fluids. (a) Fluid properties; Fluid statics. Fluid flow; governing equations. Dimensional analysis and model-prototype relationships. Closed conduit flow. Open-channel flow. Introduction to numerical modeling. Prerequisite: 251 and concurrent enrollment in or completion of Engineering 222a. (b) Laboratory. Reports. Laboratory supply fee. Prerequisite: concurrent enrollment in or completion of 370a.

392-1 to 6 Civil Engineering Cooperative Education. Supervised work experience in industry, government or professional organization. Students work with on-site supervisor and faculty adviser. Reports are required from the student and the employer. Hours do not count toward degree requirements. Mandatory Pass/Fail. Prerequisite: sophomore standing.

410-3 Solid and Hazardous Waste Engineering. Engineering aspects of solid and hazardous waste prevention, treatment, recycling and disposal. Design of recycling programs, solid and hazardous waste treatment and disposal facilities. State and federal regulations. Problems, sources, and effects of solid and hazardous waste. Design projects required. Prerequisite: 411.

411-3 Environmental Engineering Processes. Physical, chemical, and biological treatment as applied to environmental engineering. Topics include biological processes, coagulation, flocculation, sedimentation, surface phenomena, membrane processes, chlorination, and filtration. Design of environmental systems. Laboratory. Credit will be given for either 411 and 418, but not both. Prerequisite: 310.

413-3 Collection Systems Design. Design of waste water and storm water collection systems including installation of buried pipes. Determination of design loads and flows, system layout and pipe size. Prerequisite: 310 and 370.

415-3 Wastewater Treatment. A study of the design equations used in physical, chemical, and biological treatment processes and comparison to design by state standards. Basics of bacteria and their metabolic processes in the degradation of organic wastes. Treatment and disposal of sludges produced in wastewater treatment. Advanced waste treatment processes and reuse of wastewater. Prerequisite: 370, 411 and Engineering 351.

417-1 Water Quality Laboratory. Measurements of water quality parameters performed. Use of modern instrumental techniques demonstrated. Safety glasses are required. Laboratory supply fee \$15. Prerequisite: 310.

418-3 Water and Wastewater Treatment. A study of the theory and design of water and wastewater treatment systems, including physical, chemical, and biological processes. Topics include sedimentation, biological treatment, hardness removal, filtration, chlorination and residuals management. For students not specializing in Environmental Engineering. Not for graduate credit. Credit will be given for either 411 or 418, but not for both. Prerequisite: 310, 370 and Engineering 351.

419-3 Water Supply and Treatment. Water quality requirements, water sources, water treatment to include coagulation and flocculation, mixing and sedimentation basins, filtration, disinfection processes, and water softening. Consideration of toxic elements in water (sources, problems and treatments). Prerequisite: 411 and 370.

421-3 Foundation Design. Application of soil mechanics to the design of the foundations of structures; bearing capacity and settlement analysis; design of shallow footings; stability of earth slopes; design of retaining walls, design of pile foundations, coffer dams. Prerequisite: 320.

422-3 Environmental Geotechnology. Theory of mass transport and flow in saturated and vadose zone; stochastic transport theory; retardation and attenuation of dissolved solutes; flow of nonaqueous phase liquids; groundwater remediation. Prerequisite: 310 and 320.

431-3 Pavement Design. Design of highway and airport systems: subgrades, subbases, and bases; soil stabilization; stresses in pavements; design of flexible and rigid pavements; cost analysis and pavement selection; and pavement evaluation and rehabilitation. Prerequisite: 320 and 330.

440-3 Statically Indeterminate Structures. Analysis of trusses, beams, and frames. Approximate methods. Method of consistent deformations. Three-moment theorem. Slope deflection. Moment distribution. Column analogy. Plastic analysis. Matrix methods. Prerequisite: 340.

441-3 Matrix Methods of Structural Analysis. Flexibility method and stiffness method applied to framed structures. Introduction to finite elements. Prerequisite: 340 and Engineering 222a.

442-3 Structural Steel Design. An introduction to structural steel design with emphasis on buildings. Composite design. Plate girders. Rigid frames. Design project and report required. Prerequisite: 340.

444-3 Reinforced Concrete Design. Behavior and strength design of reinforced concrete beams, slabs, compression members, and footings. Prerequisite: 340.

445-3 Reinforced Masonry Design. Materials. Loads. Walls. Columns and pilasters. Beams. Lateral-load resisting elements. Connections and joints. High-rise structures. Environmental features. Quality control. Design project and report required. Prerequisite: 444.

446-3 Prestressed Concrete Design. Fundamental concepts of analysis and design. Materials. Flexure, shear, and torsions. Deflections. Prestress losses. Composite beams. Indeterminate structures. Slabs. Bridges. Prerequisite: 444.

447-3 Seismic Design of Structures. Basic seismology, earthquake characteristics and effects of earthquakes on structures, vibration and diaphragm theories, seismic provisions of the Uniform Building Code, general structural design and seismic resistant concrete and steel structures. Prerequisite: 442 and 444 or consent of instructor.

451-3 Introduction to Finite Elements in Engineering Applications. Introduction to finite element techniques and computer methods in finite element applications. Theory and structure of algorithms for one-dimensional and multi-dimensional problems. Introduction to boundary element methods. Applications in solid mechanics, structural analysis, groundwater flow, and heat transfer. Prerequisite: Engineering 351.

461-3 Legal Aspects of Surveying. Topics covered include common and statute law; unwritten rights in land and their relationship to land surveys; survey standards; restoration of lost corners; multiple corners; rules of evidence and rights, duties and liability of the surveyor. Not for graduate credit. Prerequisite: 362.

462-3 Survey Design and Land Development. Subdivision and land development principles, theory, methods and procedures including laws relating to subdivision and land development. Scope will include rural and urban subdivisions, industrial parks and major recreational developments. Laboratory. Not for graduate credit. Prerequisite: 362.

463-3 Field Survey Problems. Perform extensive field projects in the areas of engineering, hydrographic, topographic, land and control surveying utilizing state-of-the-art equipment. To be held at Crab Orchard National Wildlife Refuge. Must be taken concurrently with 464. Enrollment limited to 12 students. Not for graduate credit. Prerequisite: 361 or 362 or 363.

464-3 Field Survey Planning and Computation. Planning, organization, computations and drafting of field survey projects including the needed mapping utilizing calculators, computers, COGO and CAD. This course must be taken concurrently with 463. Enrollment limited to 12 students. Not for graduate credit. Prerequisite: 361 or 362 or 363.

465-3 Photogrammetry. Process and theory of applications of photogrammetry with respect to engineering and surveying including flight planning, mathematical principles of aerial photographs, ground control methods, control extensions, stereoscopy and parallax, basic instrumentation and remote sensing with related computations. Laboratory. Not for graduate credit. Prerequisite: 263.

471-3 Modeling Groundwater Flow and Pollution. Mathematical and numerical models for the analysis of groundwater flow and the transport of pollution by moving groundwater. Finite difference and finite element methods. Transport by advection and dispersion. Applications to the design of production wells and remediation of polluted areas. Prerequisite: 474 or consent of instructor.

472-3 Intermediate Fluid Mechanics. A detailed derivation of the Navier-Stokes equations is presented. A working knowledge of these equations is obtained by analyzing several potential flows and some simple viscous flows. Next, the Reynolds' equations are derived followed by an introduction to turbulence. Contaminant transport is covered by introducing the concepts of diffusion and dispersion. Finally, the foundations of computational fluid dynamics are presented culminating in the numerical solution of several simple viscous flows. Prerequisite: 370 and Mathematics 305.

473-3 Hydrologic Analysis and Design. Hydrological cycle, stream-flow analysis, hydrograph generation, frequency analysis, flood routing, watershed analysis, urban hydrology, flood plain analysis. Application of hydrology to the design of small dams, spillways, drainage systems. Prerequisite: 370, Engineering 222a.

474-3 Hydraulic Engineering Design. Hydrostatics, flow in pipes, open channels and porous media metering devices. Includes two- to three-week projects involving identification, modeling, analysis and design of hydraulic engineering systems. Prerequisite: 370 and Engineering 351.

492-1 to 4 Special Problems in Civil Engineering. Selected engineering topics or problems in (a) structural engineering; (b) hydraulic engineering; (c) environmental engineering; (d) applied mechanics; (e) geotechnical engineering; (f) computational mechanics (g) surveying engineering. . Four hours maximum credit. Not for graduate credit. Prerequisite: consent of instructor.

495-6 (3,3,) Civil Engineering Design. (a) Engineering ethics and professionalism. Project development skills, feasibility and cost estimation, project management, auto-cad applications in civil engineering. Selection of projects, formation of design teams, development of a design proposal. Written and oral presentations of the design proposal. Not for graduate credit. Prerequisite: Completion of or concurrent enrollment in 320, 411 or 418 and 442 or 444, and 474. (b) A capstone design experience using a team approach for the preliminary and final design of a civil engineering project. Documentation of all stages of the design project. Written and oral presentation of the final design. Not for graduate credit. Prerequisite: 495a.

Civil Engineering Faculty

Bravo, Rolando, Associate Professor, Ph.D., University of Houston, 1990.

Chevalier, Lizette R., Assistant Professor, Ph.D., Michigan State University, 1994.

Cook, Echol E., Professor, *Emeritus*, Ph.D., Oklahoma State University, 1970.

Craddock, James N., Associate Professor, Ph.D., University of Illinois at Urbana-Champaign, 1979.

Davis, Philip K., Professor, *Emeritus*, Ph.D., University of Michigan, 1963.

DeVantier, Bruce A., Associate Professor, Ph.D., University of California at Davis, 1983.

Eichfeld, William F., Assistant Professor, M.S., University of Wisconsin at Madison, 1973.

Evers, James L., Associate Professor and Associate Dean, Ph.D., University of Alabama, 1969.

Frank, Roy R., Jr., Assistant Professor, M.S., Southern Illinois University Carbondale, 1983.

Ghafoori, Nader, Professor, Ph.D., University of Miami-Coral Gables, 1986.

Kassimali, Aslam, Professor, Ph.D., University of Missouri at Columbia, 1976.

Nowacki, C. Raymond, Associate Professor, *Emeritus*, Ph.D., University of Illinois at Urbana-Champaign, 1965.

Puri, Vijay K., Associate Professor, Ph.D., University of Missouri at Rolla, 1984.

Ray, Bill T., Associate Professor, Ph.D., University of Missouri at Rolla, 1984.

Rubayi, Najim, Professor, *Emeritus*, Ph.D., University of Wisconsin, 1966.

Sami, Sedat, Professor and Chair, Ph.D., University of Iowa, 1966.

Yen, Shing-Chung, Professor, Ph.D., Virginia Polytechnic Institute and State University, 1984.

Clothing and Textiles

(SEE WORKFORCE EDUCATION AND DEVELOPMENT)

Coaching

(SEE PHYSICAL EDUCATION)

Commercial Graphics (Courses)

Courses (CG)

101-3 Fundamentals of Drawing for Commercial Graphics – Design. An introduction to the materials and techniques utilized in graphic design and illustration. The basic elements of art and design will be identified and incorporated in a series of exercises designed to better acquaint students with the concepts, processes, and skills needed by professionals employed in the commercial graphics field.

109-2 Basic Photography for Commercial Graphics – Design. An introduction to the fundamentals of photography directed toward the needs of graphic design. Through a basic understanding of film exposure and development processes, its use as a graphic medium will be attained. By creative studio and laboratory assignments an insight into the possibilities and limitations of the photographic process will be gained. The cost of film, processing, and printing will be borne by the student. Laboratory fee: \$10. Lecture and laboratory.

110A-3 Survey of Graphic Design to the 19th Century. A survey of the influential images, ideas, movements, graphic artists and illustrators that have contributed to the evolution and history of graphic design from pre-historic origins through the 19th century. Lecture.

110B-3 Survey of Graphic Design—20th Century. A survey of the influential images, ideas, movements, graphic artists and illustrators that have contributed to the evolution and history of graphic design in the 20th Century (1900 to present). Lecture.

120-4 Artistic Anatomy and Color Perception I. Students will demonstrate an ability to understand and use pigmental and light ray color theory and practical application. Students will also demonstrate a knowledge of the bones and muscles of the human anatomy by way of examination and further demonstrate their comprehension and talent by way of ability to design, organize and structure through compositional arrangement. Lecture and laboratory. Laboratory fee: \$20. Prerequisite: concurrent enrollment in 122 and 124.

122-4 Technical Drawing for Graphics. Students will demonstrate an ability to understand and utilize the proper point of perspective in illustration and to use the T-square, triangle, and drawing instruments in precisely executing geometric forms, mechanical, and industrial illustration. In addition, students will demonstrate an ability to render objects on scratchboard: the utilization of zipatone patterns and the proper use of the ruling pen to accurately execute ruled business forms. Lecture and laboratory. Prerequisite: concurrent enrollment in 120 and 124.

124-4 Graphic Layout and Typography I. Students will demonstrate an ability to use the basic principles of layout, how to do thumbnails, roughs, and clear accurate comprehensives. They will also demonstrate an understanding of basic lettering styles and techniques with chisel point pencil. They will demonstrate an ability to understand the history and practical uses of typography in advertising. Lecture and laboratory. Concurrent enrollment in 120 and 122.

126-2 Fundamentals of Drawing and Composition. The student will demonstrate awareness of perspective, light and shade, color theory and application, and composition through basic drawing techniques. Non-majors only. Lecture and laboratory.

128-2 Fundamentals of Graphic Processes. The student will be made aware of the various principles and styles of layouts, letter forms and typography and prepare mechanicals to demonstrate a knowledge of the various printing methods. The student must supply all materials used. Lecture and laboratory.

130-4 Artistic Anatomy and Color Perception II. The student will continue to demonstrate knowledge and artistic ability of the human anatomy in the development of advertising, illustration, fashion illustration, and by way of modification the development of the cartoon figure. Lecture and laboratory. Laboratory fee: \$20. Prerequisite: 120, 122 and concurrent enrollment in 132 and 134.

132-4 Airbrush and Photo Retouching. The student will demonstrate development of skills in the operation and techniques of airbrush rendering used for mechanical and illustrative purposes, and in addition, will retouch black and white photographs suitable for reproduction. Lecture and laboratory. Laboratory fee: \$10. Prerequisite: 120 and 122 and concurrent enrollment in 130 and 134.

133-1 Copyfitting. The student will demonstrate an ability through discussion and examination to properly solve copy fitting problems, specify how many lines a given manuscript or ad will set, how deep, how many pages in any given format, and to calculate the number of characters per pica and per line. Lecture. Prerequisite: concurrent enrollment in 134.

134-4 Graphic Layout and Typography II. The students will demonstrate their ability through discussion and examination to identify at least 14 different type faces on sight. In addition, they will demonstrate an ability to prepare clean, accurate, professional, quality work with offset lithography, letterpress, gravure, and silk screen printing processes. Lecture and laboratory. Prerequisite: 122 and 124 and concurrent enrollment in 130, 132, and 133.

150-2 Computer Applications for Commercial Graphics Design. Introduction to microcomputer-based techniques. Includes a survey of history and current computer generated graphics. The student will become familiar with basic computer operation and keyboard, and develop business graphics visuals in full color to be produced on 35mm film. Programming not required. Incidental expenses will be borne by the student. Laboratory fee: \$10. Prerequisite: 120, 122 and 124 or permission of the instructor.

199-1 to 10 Individual Study. Provides first-year students with the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment provides access to the resources of facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Prerequisite: approval of the sponsor and department chair.

200-1 Artfair Exhibition. Students will receive practical experience in the coordination and development of an art exhibition. They will participate in the development of announcements, mailers, cataloging, scheduling news releases, receiving of entries, security, and returning procedures. They will develop a systems flow chart for the effective and smooth operation of an exhibition including hands-on operation of exhibit construction and location. Laboratory.

210-6 Advertising Graphics. Students will demonstrate their ability in the preparation of professional assignments in lettering, logo, and letterhead design and the development of line art and cartoons for advertising illustration. In addition, students will have their work selected for production on various client-oriented projects. Lecture and laboratory. Laboratory fee: \$20. Prerequisite: 130, 132 and 134 and concurrent enrollment in 224.

215-6 Dimensional Design. Students will demonstrate their ability to research and analyze information to create a precise original concept and to visually render point-of-purchase displays, exhibits, signs, and package designs. Lecture and laboratory. Laboratory fee: \$20. Prerequisite: 210 and 224 and concurrent enrollment in 222.

222-6 Graphic Design and Advertising Illustration. Students will demonstrate their ability to prepare professionally acceptable assignments in poster panels and billboard designs, diecut tent cards, folder designs and multi-unit advertising, and advertising and cover illustration and client oriented projects for promotions and product. Lecture and laboratory. Laboratory fee: \$20. Prerequisite: 210, 224, and concurrent enrollment in 215.

224-6 Publication Graphics. Students will demonstrate their ability to create new and unusual concepts in advertising layout and design, folder design, color keys, marking up copy, and doing complete production art. Contemporary techniques in design and production will be emphasized. Students also have the opportunity to have work selected for production on various client-oriented projects. Lecture and laboratory. Laboratory fee: \$20. Prerequisite: 130, 132, 134, and concurrent enrollment in 210.

230-1 Job Orientation Seminar. Students will demonstrate a knowledge through discussion and examination of the operations of large and small agencies and studios including the various responsibilities of the people employed in them by class discussion and examination. Prospecting for employment, working conditions, prospects for advancement, how much an artist should charge for a piece of art, and the legal responsibilities of the artist-designer to the client-agency will be discussed. Students will conclude this course with the presentation of a portfolio demonstrating their ability to do professional quality work (at least 10 plates) and will have acquired the experience of being interviewed for an artist position. Lecture.

240-3 to 12 Special Study. A student with a special interest in a particular advertising art or graphic design area will do selected projects and research to develop additional professional skill. Requires approval of the program supervisor. Lecture and laboratory.

299-1 to 16 Individual Study. Provides students with opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment provides access to the resources of facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Prerequisite: approval of the sponsor and department chair.

310-6 (3,3) Advanced Illustration. Provides the student with the opportunity for advanced studies in methods and techniques used by recognized illustrators in the development of fiction and non-fiction story visualizations. (a) Visual development. To depict the climax or visually stimulating moment of the story through the use of thumbnails, roughs, value studies and to secure models, costumes, props, etc., as may be needed to photograph for rendering studies. Laboratory fee: \$10. (b) Renderings to be in any medium approved by the faculty sponsor. Number of projects to be determined by complexity of each. Student must have access to a 35mm SLR camera and tripod. Laboratory fee: \$10. Prerequisite: 120, 130, and successful completion of graphic design proficiency requirement, or consent of department chair.

312-6 (3,3) Advanced Airbrush/Technical Illustration. Provides the opportunity for advanced studies in methods and techniques used in airbrush and technical illustration. (a) Perspective or isometric projections rendered in ink, overlay films, or airbrush. Laboratory fee: \$15. (b) Airbrush rendering of commercial advertising or products. Students will be required to complete a specific number of projects that lead through the production to a finished commercial rendering, from concept to touch-up, based on the complexity of each as determined by the sponsoring faculty member. Must have own airbrush and portable compressor. Laboratory fee: \$15. Prerequisite: 122, 132, and successful completion of graphic design proficiency requirements, or consent of department chair.

315-3 Advanced Dimensional Design for Commercial Graphics—Design. Provides the opportunity to advance skills, development, and knowledge in the diverse field of dimensional graphics. The student will utilize dimensional design in the conceptualization and creation of (1) advanced dimensional design (package and exhibit design, point of purchase displays, etc.) and/or (2) paper engineering graphic design (pop-up advertisements, dimensional inserts, etc.). The student will be expected to successfully complete several challenging projects chosen from a field of eight. Laboratory fee: \$20. Prerequisite: 215, 224, and successful completion of the graphic design proficiency examination, or consent of department chair.

319-1 to 15 Occupational Internship. Each student will be assigned to a University approved organization engaged in activities related to the student's academic program and career objectives. The student will perform duties and services as assigned by the preceptor and coordinator. Reports and assignments are required to be completed by the student. Course and credits to be individually arranged. Mandatory Pass/Fail.

320-1 to 12 Commercial Graphics-Design Cooperative Education. Each student will participate in a departmentally approved cooperative education program that includes formal instruction, training, and/or career-related work experience. Students receive a salary or wages and engage in pre-arranged assignments related to their academic program and career objectives. Department faculty evaluations, cooperative agency student performance evaluations and student reports are required. Cooperative experiences may be in one of the following broad areas: (a) Print design; (b) Advertising design; (c) Print pre-press and production; (d) Print operations. Hours and credit to be individually arranged. Prerequisite: 120, 122, 124, 130, 132, 134.

350-1 to 32 Technical Career Subjects. In depth competency and skill development and exploration of innovative techniques and procedures used in business, industry, professions, and health service occupations offered through various workshops, special short courses, and seminars. Hours and credit to be individually arranged. This course may be classified as independent study. Prerequisite: consent of instructor.

360-3 Advanced Computer Applications. Provides an opportunity for the advanced study of artistic and technical solutions for commercial graphic problems using the computer as a tool. Demystifies computer graphics for artists and designers and helps them use computer graphics in their work. Hands-on computer painting is explored as well as a library of type fonts. An understanding of commercial graphic print tools and color separation are studied and used. Animation and special effects may be created and saved on a disk. Lecture/laboratory. Expenses approximately \$25. No programming required. Prerequisite: 150 and associate

degree in commercial graphics and successful completion of graphic design proficiency requirements, or consent of department chair.

Communication Disorders and Sciences (Major, Courses)

The major in Communication Disorders and Sciences is part of the Rehabilitation Institute.

The program in Communication Disorders and Sciences has as its objective the training of qualified personnel to aid people who have speech, language, or hearing impairment. The undergraduate curriculum is broad in scope and gives the student the necessary preprofessional background for the clinical-research program offered at the master's level. Both the state of Illinois and national certification require the master's degree. Students who complete the graduate program at the master's level and have certification are qualified for positions in public or private clinics, schools, hospitals, or rehabilitation agencies. In addition, the broad scope of the undergraduate program provides a solid foundation for many graduate professional programs in rehabilitation, such as rehabilitation counseling, behavioral analysis and therapy, and rehabilitation administration.

Communication Disorders and Sciences is dedicated to preparing students for leadership roles in the profession. Students are expected to develop programs that will enhance their individual strengths in light of their professional goals. The undergraduate program permits students to develop significant concentration areas outside of the department while laying the foundation for graduate education.

The undergraduate program is designed to provide the student with sufficient information and experience to determine the advisability of pursuing a graduate degree in Communication Disorders and Sciences. Those students choosing not to continue in the profession will find themselves well prepared to enter the job market with a broadly based education or to pursue graduate work in allied rehabilitation professions.

All students are encouraged to plan programs of study to meet the academic and practicum requirements for the Certificate of Clinical Competence of the American Speech-Language-Hearing Association, the Standard Special Certificate in Speech and Language Impaired of the State of Illinois, or both. Programmatic planning at the undergraduate level will facilitate completion of certification requirements of American Speech-Language-Hearing Association and State of Illinois in conjunction with the master's degree program.

Bachelor of Science Degree, College of Education

COMMUNICATION DISORDERS AND SCIENCES – PREPROFESSIONAL PROGRAM

<i>University Core Curriculum Requirements</i>	41
To include: ENGL 101, 102; SPCM 101; MATH 110 or 113; PHYS 101, GEOL 110 or CHEM 106; PLB 115, 117, or ZOOL 115; ENGL 308i ¹ , FL 310i, HIST 304i ¹ , or PHIL 308i ¹ ; HIST 110; AD 101, HIST 201, MUS 103 or THEA 101; FL 101, HIST 101a ¹ , b, PHIL 103a,b; ENGL 121 or 204; POLS 114; PSYC 102; ANTH 202, HIST 202, 210 or SOC 215; HED 101 or PE 101.	
<i>Major Requirements</i>	46
Psychology 102, 211, 301	10
Sociology 108	3
Communication Disorders and Sciences 105, 300, 301, 302, 303, 314, 410, 419, 420, 492, 493	33
<i>Electives by Advisement</i>	33
<i>Total</i>	120

¹One course required to meet non-western civilization/third world culture requirement.

Students pursuing an Illinois Type-10 Teaching Certificate must include the following:

Mathematics and Science coursework to total 12 semester hours (including one laboratory course).

Humanities and Fine Arts coursework to total 15 semester hours.

A minimum of 3 semester hours in English literature.

And the following courses: Education 308, 310, 311, 314a, 315, History 110 and Political Science 114

A student in the College of Education who plans to be a public school speech and language clinician in Illinois, thereby needing to meet the requirements for the Standard Special Certificate - Certificate in Speech and Language Impaired, should follow the program of course requirements listed above. To meet the University Core Curriculum Requirements for certification, the following UCC courses listed above must be taken. In addition, the requirements for the Teacher Education Program must be completed as part of the electives by advisement. Recommendation for admission to the Teacher Education Program for the speech-language impaired requires a minimum grade point average of 2.75 on a 4.0 scale. The student teaching requirement may not be undertaken at the undergraduate level. Students interested in the Teacher Education Program should contact the academic adviser for Communication Disorders and Sciences in the College of Education for appropriate University Core Curriculum and Teacher Education coursework. See also Teacher Education Program above.

Courses (CDS)

100-0 to 1 Speech Clinic: Therapy. For students with speech and hearing deviations who need individual help. Prerequisite: consent of instructor.

104-3 Training the Speaking Voice. For those students who desire to improve their voice and articulation.

105-3 Introduction to Communication Disorders. A general survey course devoted to a discussion of the various problems considered to be speech and hearing disorders with special emphasis on basic etiological classification schemes and their incidence in the current population. Opportunities for directed observation.

300-3 Phonetics. Instruction in the use of phonetic symbols to record the speech sounds of midland American English, with emphasis on ear training, and a description of place and manner of production of these sounds.

301-3 Introduction to Speech-Language and Hearing Science. An introduction to the science of general speech including the history of research in the field and significant experimental trends. Open to all students.

302-3 Voice and Articulation. A general introduction to the phonological development in children on a normative basis. In addition to introducing the student to the classical studies in articulatory development, this course provides a general exposure to the implications of classical phonetic theory, coarticulatory theory and distinctive features theory as a framework for therapy and research. Physio-acoustic parameters of voice quality variables evidenced in verbal communication are also studied. Lectures and demonstrations emphasize basic information necessary to study for the treatment of voice disorders.

303-3 Language Development and Disorders. Presentation of the progressive stages of language development in the areas of syntax and semantics. The student is acquainted with normal developmental processes and introduced to identification and remediation of therapeutics with children from ages three to twelve. Theoretical considerations and terminology related to traditional structural and transformation grammars are introduced as tools for interpreting the acquisition processes.

307-3 Introduction to Organics. An introduction to the organic bases of communication disorders. An emphasis will be placed on the foundations of development and teratological events and influences which result in specific communication disorders, and overview of those disorders, and their implications for the individual. Observations as directed. Prerequisite: 314 or consent of instructor.

314-3 Anatomy and Physiology of the Speech and Hearing Mechanism. Structure and function of the speech and hearing mechanism.

385-3 Computer Technology in Communication and Fine Arts. An introduction to the basic terminology, concepts and techniques being used in the various areas of education and rehabilitation. A foundation course to prepare students for the impact of computer technology in the professional lives of those who work in the occupational settings represented within the college.

408-3 Communicative Disorders: Craniofacial Anomalies. An introduction to the ontology, teratology, and management of cleft palate and various craniofacial syndromes important to majors and non-majors interested in this aspect of communication and its disorders. Associated problems of personal and social adjustments are also examined. Prerequisite: 314 or consent of instructor.

410-3 Multicultural Aspects of Communication Disorders. Students will explore different cultures and communication within these cultures. Emphasis will be placed on the relationship between cultural differences and communication disorders. Review of speech and language disorders in multicultural populations, as well as assessment and intervention strategies for use with this diverse group will be provided. Prerequisite: 302, 303 or consent of instructor.

417-3 Stuttering. Reviews the data and theories that relate to the etiology, onset and development of stuttering.

418-3 Parameters of Voice. Physio-acoustic parameters of voice quality variables evidenced in verbal communication. Lectures and demonstrations emphasize basic information necessary to study for the treatment of voice disorders.

419-3 Communication Problems of the Hearing Impaired. Objectives and techniques for the teaching of lip reading, speech conservation, and auditory training. Prerequisite: 302, 303, and 420 or equivalents and consent of instructor.

420-3 Introduction to Audiological Disorders and Evaluation. Bases of professional field of audiology (orientation, anatomy, and physiology of the auditory system), major disease processes influencing hearing and their manifestations, measurement of hearing loss. Prerequisite: 301 and 314.

428-3 Communication Disorders and the Classroom Teacher. Etiology and therapy of common speech defects. May be taken by all inservice teachers, seniors, and graduate students in education.

431-1 to 6 Speech Physiology. Course focuses on the physiologic parameters of the supraglottal tract, and respiratory and laryngeal systems related to speech production. Discussion and laboratory experiences involve physiological characteristics of normal and disordered speech production, measurement and research procedures, and implications for neuromotor control of speech. Prerequisite: 301 and 314 or consent of instructor.

438-3 Problems of Communication and the Process of Aging. Reviews problems of communication related to the aging process and examines relevant diagnostic and therapeutic techniques. Prerequisite: senior or graduate standing.

450-3 Neuroanatomical Basis of Human Communication. Examination of the central nervous system (brain and spinal cord) as it relates to normal and disordered human communication. Presentation of basic neuroanatomy, common neuropathologies relevant to communication disorders, and strategies in neurogenic problem solving. Prerequisite: 314 or consent of instructor.

460-3 Augmentative and Alternative Communication Systems. An introduction to alternative and augmentative communication systems for non-vocal clients. Discussions include: use of aided and unaided augmentative systems, assessment procedures and training. Prerequisite: 301 or consent of instructor.

485-1 to 9 (1 to 3 per 700 section number) Special Topics in Communication Disorders and Sciences. Topical presentations of current information on special interests of the faculty not otherwise covered in the curriculum. Designed to promote better understanding of recent developments related to disorders of verbal communication. Open to advanced undergraduate and graduate students with consent of instructor.

491-1 to 9 (1 to 3 per semester) Individual Study. Activities involved shall be investigative, creative, or clinical in character. Must be arranged in advance with the instructor, with consent of the chair. Prerequisite: consent of chair.

492-3 Diagnostic Procedures in Communication Disorders. A course devoted to discussion of the role of the speech and hearing clinician as a differential diagnostician. Special emphasis is placed on correlating information obtained from the oral-peripheral examination, articulation and language evaluation, audiometric and case history information in constructing the initial evaluation report. Prerequisite: restricted to consent of instructor.

493-3 Basic Clinical Practice. Current information regarding diagnostic, treatment and documentation procedures in speech-language pathology will be presented through active observation in the clinical environment and classroom instruction. Prerequisite: restricted to consent of instructor.

Comparative Literature (Minor)

A comparative literature minor is available within the College of Liberal Arts. The program is directed by the comparative literature adviser in either the Department of English or the Department of Foreign Languages and Literatures. The minor consists of 18 hours of coursework at or above the 300-level in literature other than those in which the student is majoring.

Computer Science (Department, Major, Courses)

Computer Science encompasses the theory, tools and techniques by which information is derived, stored, manipulated, and communicated using computers. It deals particularly with the study of algorithms that are used to direct the computer and with the expression of these algorithms as programs. Of central concern is the study and further development of the computer systems, including both hardware and software, that support the execution of these programs.

The Computer Science department offers two degree programs to undergraduate students. The Bachelor of Science and the Bachelor of Arts degree programs are both offered through the College of Science. The curriculum specified for the Bachelor of Science degree is more traditional and somewhat more flexible in that it prepares the student for a wide range of careers as well as for graduate degree programs in computer science. The Bachelor of Arts degree program is more specifically oriented toward the area of business applications and in particular, is designed to enable students to pursue a fifth year of studies leading to an MBA degree.

In support of these degree programs, the department offers courses covering all the major areas of computer science including programming languages, operating systems, databases, computer networks, computer architecture, computer graphics, artificial intelligence, algorithms and parallel programming. In addition, the department offers an undergraduate minor and service courses for students from other fields who will use computer science as a tool in their own areas. Students interested in computer science will be advised with respect to computer science courses by the department so they may profitably pursue their academic and professional interests.

The department enforces the following retention policy: a computer science major will not be permitted to enter any of the courses, 220, 306, 311, 315, 320, 330 and 355, unless that student has achieved a grade point average of at least 2.00 for all required precedent computer science courses. Any exceptions to this policy will require the written approval of the departmental chair.

The department also enforces the following restriction on students repeating its courses: a student cannot repeat a course or its equivalent, in which a grade of B or better was earned, without the consent of the department.

Bachelor of Science Degree, College of Science

<i>University Core Curriculum Requirements</i> ¹	41
<i>College of Science Academic Requirements</i>	10
Biological Sciences - 6 hours (not University Core Curriculum courses) ¹	
Mathematics - completed with Computer Science major	
Physical Sciences - completed with Computer Science major	
Supportive Skills - 7 hours	
Mathematics 483 and one of English 290, 291 or 491	
<i>Requirements for Major in Computer Science</i> ²	59
Computer Science Core:	
Computer Science 202, 215, 220, 306, 311, 315, 320, 330, 355, 399, each with a grade of C or better	
Computer Sciences electives	18
To build on the core and to provide breadth and depth, six 400-level Computer Science courses must be chosen from the following list: Computer Science 401, 402, 414, 416, 420, 430, 435, 436, 440, 451, 455, 484, 485 or one of 447, 449, 464a, 464b, 471, 472	
Mathematics 150 ^{1,3} , 250, 221	
Laboratory Science Sequence ¹	
Physics 205a,b and 255a,b or Chemistry 200, 201 and 210, 211	
<i>Electives</i>	10
<i>Total</i>	120

¹ A total of nine hours of biological science, mathematics and laboratory science course work are accounted for in the 41-hour Core Curriculum requirement.

² The supportive skills are also required for a major.

³ Prerequisite is Mathematics 111 or Mathematics 108 and 109. The elective hours are reduced by 3-6 hours for students who place into a course lower than calculus.

Bachelor of Science Computer Science Suggested Curricular Guide

FIRST YEAR			SECOND YEAR		
	FALL	SPRING		FALL	SPRING
CS 202.....	-	3	CS 220, 315.....	3	3
CS 215.....	-	3	ENGL 290.....	3	-
ENGL 101, 102	3	3	MATH 250, 221	4	3
MATH 111, 150	5	4	PHYS 205a, 255a	4	-
PHIL 105	3	-	PHYS 205b, 255b	-	4
SPCM 101.....	-	3	Core Humanities	-	3
ZOOL 214	3	-	Core Social Science	-	3
Total.....	14	16	Total.....	14	16
THIRD YEAR			FOURTH YEAR		
	FALL	SPRING		FALL	SPRING
CS 306, CS 311	3	3	CS 399.....	1	-
CS 320.....	3	-	CS 4XX.....	3	3
CS 330, CS 355	3	3	CS 4XX.....	3	3
MATH 483	-	4	CS 4XX.....	3	3
PLB 200 or ZOOL 118	-	4	Integrative Studies Core	3	3
Core Fine Arts	3	-	Free Elective.....	3	3
Core Social Science	3	-			
Total.....	15	14	Total.....	16	15

Bachelor of Arts Degree, College of Science

University Core Curriculum Requirements ¹	41
College of Science Academic Requirements	12
Biological Sciences - 6 hours (not University Core Curriculum courses) ¹	
Mathematics - completed with Computer Science major	
Physical Sciences - 6 hours ¹	
Supportive Skills - 6 hours	
Mathematics 282 and one of English 290, 291 or 491	
Requirements for Major in Computer Science ²	65
Computer Science Core:	
Computer Science 201 or 200b, 202, 215, 220, 306, 311, 315, 320, 330, 399, each with a grade of C or better	
Computer Science 430, 435	
Computer Sciences electives to total 6 hours	
To build on the core and to provide breadth and depth, two 400-level Computer Science courses must be chosen from the following list: Computer Science 401, 414, 416, 472, 484, 485	
Mathematics 150 ^{1,3}	
Secondary Concentration (MBA Foundation)	
Accounting 220, Finance 270 and 330, Management 318 and 352, Marketing 304, and Economics 240 ¹ and 241	
Electives	2
Total	120

¹ A total of twelve hours of biological science, economic, mathematics and physical science course work are accounted for in the 41-hour Core Curriculum requirement.

² The supportive skills are also required for a major.

³ Prerequisite is Mathematics 111 or Mathematics 108 and 109. The total hours are increased by 3-6 hours for students who place into a course lower than calculus.

Bachelor of Arts Computer Science Suggested Curricular Guide

FIRST YEAR			SECOND YEAR		
	FALL	SPRING		FALL	SPRING
CS 201 or 200b	3	-	ACCT 220	3	-
CS 202	-	3	CS 220, 315	3	3
CS 215	-	3	ECON 240, 241	3	3
ENGL 101, 102	3	3	ENGL 290	-	3
MATH 111, 150	5	4	HED 101	2	-
PHIL 105	3	-	PHYS 203a, 253a	4	-
SPCM 101	-	3	PHYS 203b	-	3
			Core Humanities	-	3
<i>Total</i>	14	16	<i>Total</i>	15	15
THIRD YEAR			FOURTH YEAR		
	FALL	SPRING		FALL	SPRING
CS 306	-	3	BIOL 315	2	-
CS 311, 312	3	3	CS 399	-	1
CS 320	3	-	CS 430, 435	3	3
CS 330	3	-	CS 4XX	-	6
FIN 330	-	3	FIN 270	3	-
MATH 282	-	3	MGMT 318, 352	3	3
ZOOL 118	-	4	MKTG 304	3	-
Core Fine Arts, Social Science	6	-	Integrative Studies Core	3	3
<i>Total</i>	15	16	<i>Total</i>	17	16

Minor

A minor consists of Computer Science 202, 215, 220, and at least nine hours of 300-level Computer Science course work.

Courses (CS)

200-6 (3,3) Introduction to Computing. This course is designed to provide students with a general introduction to computers and computing. Topics include computer literacy and computer networks along with experiences using major software application packages including word processors, spreadsheets, database packages and web browsers. Credit cannot be given for both 200a and 200b. (a) 200a targets students with little or no computer background. There will be an emphasis on "hands on" experiences in a laboratory setting. (b) 200b is more specifically designed for business students. The topics covered will include an emphasis on business applications and associated software packages.

201-3 Problem Solving with Computers. This course provides an introduction to problem solving using computers. It goes beyond basic computer literacy and application software experiences, but is less intensive than a first course devoted solely to programming. The course focuses on problem solving in the context of an introduction to computer programming and includes coverage of topics from computer literacy, word processing, spreadsheet and database packages. A preliminary treatment of the Internet and World Wide Web is also included.

202-3 Introduction to Computer Science. [IAI Course: CS 911] An introduction to computers and programming using a high-level structured language including a discussion of programming constructs and data representation. Primary emphasis will be given to problem solving, algorithm design, and program development. Prerequisite: 201 or Mathematics 108.

215-3 Discrete Mathematics. (Same as Mathematics 215.) [IAI Course: M1 905] Number systems and computer arithmetic. Sets, logic and truth tables. Boolean algebra with application to computer logic design, functions and relations. Elementary matrix operations and systems of equations. Combinations, permutations and counting techniques. Elementary probability and statistics. Prerequisite: Mathematics 108 or equivalent.

220-3 Programming with Data Structures. [IAI Course: CS 912] A course in advanced programming, data structures and algorithm design with an increased emphasis on structured design techniques and program development. Topics include advanced language features, data abstraction and object-oriented programming, classes and dynamic data, recursion, stacks, queues, linked lists, trees and graphs, sorting and searching. Prerequisite: 202 and 215 each with a grade of C or better.

306-3 Systems Programming. An introduction to modern concepts in operating systems through systems programming. Topics to be covered include basic system commands, shells, low-level I/O, system calls, files and directories, signals, interprocess communication, interhost communication, remote procedure calls and threads. Programming with system calls is an integral part of the course. Prerequisite: 220 with a grade of C or better.

311-3 Design and Implementation of Programming Languages. Study of the significant features of existing programming languages such as FORTRAN, Algol, Pascal, Ada, C with particular emphasis on the underlying concepts abstracted from these languages. Includes formal specification of syntax, representation of data objects, implementation of procedure calls, coroutines and concurrency, heap management, and static and

dynamic scoping. Introduces object oriented programming (such as Smalltalk), symbolic, functional (such as LISP) and logic programming (such as Prolog) languages. Prerequisite: 220 with a grade of C or better.

312-3 COBOL Programming. COBOL and its use in business data processing. Prerequisite: 202.

315-3 Computer Logic and Digital Design. Introduction to switching algebra and its applications. Combinational logic and combinational circuit components. Sequential logic and sequential circuit components. Asynchronous sequential circuits. Prerequisite: 202 and 215 each with a grade of C or better.

320-3 Computer Organization and Architecture. [IAI Course: CS 922] Overview of the basic logic circuits needed in constructing a computer. Fundamental computer operations: machine and assembly language instructions, stacks, procedures and macros. The translation process: assembly, compiling, linking and loading. Input/output programming. Hardware elements for processing, transferring and storing information. An introduction to advanced architectures. Prerequisite: 220 and 315 each with a grade of C or better.

330-3 File Structures and Databases. Secondary memory devices. Advanced data structures and algorithms for efficient storage and retrieval of information contained in files. Introduction to database management and the relational database model. Local and remote file access, servers and network-related issues. Prerequisite: 220 with a grade of C or better.

355-3 Algorithms. An introductory treatment of the design, analysis, and complexity of algorithms. Explores fundamental techniques, sorting and order statistics, and basic graph algorithms. Introduction to theory of computing. Prerequisite: 220 with a grade of C or better and Mathematics 221.

361-3 Numerical Calculus. (Same as Mathematics 361.) Algorithms for the solution of numerical problems encountered in scientific research work with special emphasis on the use of digital computers. Includes an elementary discussion of error, polynomial interpolation, quadrature, solutions of nonlinear equations and linear systems, solutions of differential equations. Prerequisite: 202 or equivalent programming proficiency and Mathematics 221 and 250.

399-1 Social, Ethical and Professional Issues in Computer Science. The issues facing the computer professional in society and industry. Social impact of information technology. Ethical responsibilities of the computer professional. Professional organizations: availability, membership, meetings, ethical codes of conduct. Professional communications: written reports on case studies dealing with ethical decision making in information technology; a written report and an oral presentation on a technical research area in computer science. Prerequisite: Senior standing in computer science.

401-3 Computer Architecture. Review of logical circuit design. Hardware description languages. Algorithms for high speed addition, multiplication and division. Pipelined arithmetic. Implementation and control issues using PLA's and microprogramming control. Cache and main memory design. Input/Output. Introduction to interconnection networks and multiprocessor organization. Prerequisite: 315 with a grade of C or better.

402-3 Theory and Applications of Computer Aided Design. A study of algorithmic techniques which solve high complexity design rules. Graph algorithms and formulations, randomized solutions, techniques from operations research and statistics, computational geometry algorithms and data structures are introduced. The techniques are mainly applied on the physical design/automation problem for integrated circuits and systems. Prerequisite: 315 and 355 each with a grade of C or better.

414-3 Operating Systems. An extended treatment of the components of operating systems including I/O programming, memory management, virtual memory, process management, concurrency, device management and file management. Prerequisite: 306 and 330 each with a grade of C or better.

416-3 Compiler Construction. Introduction to compiler construction. Design of a simple complete compiler, including lexical analysis, syntactical analysis, type checking, and code generation. Prerequisite: 306 and 311 each with a grade of C or better.

420-3 Parallel and Distributed Computing. This course serves as an introduction to the areas of parallel and distributed computing. The major approaches to parallel programming, including shared-memory multiprocessing and message-passing multicomputing, will be covered in some detail. Students will have programming experience in each of paradigms. Architectural considerations, algorithm design, and measures of performance will be covered. In addition, the course will provide an introduction to distributed computing on a network of computers. Parallel and distributed computing will be contrasted. Other approaches to parallelism including data parallelism (SIMD) and vector processing will be surveyed. Prerequisite: 306 and 355 each with a grade of C or better.

430-3 Database Systems. A comprehensive treatment of database systems, including network, hierarchical, and relational systems. Prerequisite: 330 with a grade of C or better.

435-3 Software Design and Development. An exercise in the analysis, design, implementation, testing, and maintenance of a large modular application system. Team production of a system is the focal point for the course. Topics include the system life cycle, system specification, human interfaces, modular design, improved programming techniques, and program verification and validation. Prerequisite: 306 and 330 each with a grade of C or better.

436-3 Artificial Intelligence I. Search and heuristics, problem reduction. Predicate calculus, automated theorem proving. Knowledge representation. Applications of artificial intelligence. Parallel processing in artificial intelligence. Prerequisite: 311 and 355 each with a grade of C or better.

440-3 Computer Networks. Design and analysis of computer communication networks. Topics to be covered include queuing systems, data transmission, data link protocols, topological design, routing, flow control, security and privacy and network performance evaluation. Prerequisite: 315 and 355 each with a grade of C or better.

447-3 Introduction to Graph Theory. (Same as Mathematics 447.) Introduction to theory of graphs, digraphs, and networks and applications to electrical systems and computer science. Topics include blocks and cut-

points, Eulerian graphs, trees, cycle and cocycle spaces, planarity and Kuratowski's Theorem, connectivity and Menger's Theorem, Hamiltonian graphs, colorability and Heawood's Theorem, flows in networks and Ford-Fulkerson Theorem, critical path analysis. Prerequisite: Mathematics 349 or consent of instructor.

449-3 Introduction to Combinatorics. (Same as Mathematics 449.) An introduction to combinatorial mathematics with computing applications. Topics include selections and arrangements, generating functions, recursion, inclusion and exclusion, coding theory, block designs. Prerequisite: Mathematics 349 or consent of instructor.

451-3 Theory of Computing. The fundamental concepts of the theory of computation including finite state acceptors, formal grammars, Turing machines, and recursive functions. The relationship between grammars and machines with emphasis on regular expressions and context-free languages. Prerequisite: 311 and 355 each with a grade of C or better or graduate standing.

455-3 Design and Analysis of Computer Algorithms. An extensive treatment of the design, analysis and complexity of algorithms. Lower bound arguments, divide-and-conquer techniques, greedy algorithms, dynamic programming, graph theoretic algorithms, PRAM algorithms and NP-completeness and approximation algorithms. Prerequisite: 355 each with a grade of C or better or graduate standing.

464-6 (3,3) Numerical Analysis. (Same as Mathematics 475.) An introduction to the theory and practice of computation with digital computers. Topics include the solution of nonlinear equations, interpolation and approximation, solution of systems of linear equations, numerical integration, solution of ordinary differential equations, computation of eigenvalues and eigenvectors, and solution of partial differential equations. Prerequisite: (a) 202 or equivalent programming proficiency and Mathematics 221 and 250 (b) 464a and Mathematics 305.

471-3 Introduction to Optimization Techniques. (Same as Mathematics 471.) Nature of optimization problems. General and special purpose methods of optimization, such as linear programming, classical optimization, separable programming, integer programming, and dynamic programming. Prerequisite: 202 and Mathematics 221 and 250.

472-3 Linear Programming. (Same as Mathematics 472.) Nature and purpose of the linear programming model. Development of the simplex method. Application of the model to various problems. Duality theory. Transportation. Assignment problem. Postoptimality analysis. Prerequisite: 202 and Mathematics 221.

484-3 User Interface Design and Development. Human-computer interaction and the importance of good interface design. Interface quality and methods of evaluation. Interface design examples and case studies. Prototyping and implementation techniques. Task analysis and the iterative design cycle. Dialogue techniques, basic computer graphics, I/O device, color and sound. Use of at least one interface toolkit and development methodology to complete an interface design project. Prerequisite: 306 with a grade of C or better.

485-3 Computer Graphics. Study of the devices and techniques for the use of computers in generating graphical displays. Includes display devices, display processing, transformation systems, interactive graphics, 3-dimensional graphics, graphics system design and configuration, low and high level graphics languages, and applications. Prerequisite: 306 with a grade of C or better; Mathematics 150 and 221 are recommended.

490-1 to 6 (1 to 3 per semester) Readings. Supervised readings in selected subjects. Prerequisite: consent of instructor and department.

491-1 to 4 Special Topics. Selected advanced topics from the various fields of computer science. Prerequisite: consent of instructor.

492-1 to 6 (1 to 3 per semester) Special Problems. Individual projects involving independent work. Prerequisite: consent of department.

493-1 to 4 Seminar. Supervised study. Preparation and presentation of reports. Prerequisite: consent of instructor.

Computer Science Faculty

Carver, Norman F., III, Assistant Professor, Ph.D., University of Massachusetts, 1990.

Chu, Jiang-Hsing, Associate Professor, Ph.D., University of Maryland, 1989.

Danhof, Kenneth J., Professor, Ph.D., Purdue University, 1969.

Gupta, Bidyut, Associate Professor, Ph.D., University of Calcutta, 1986.

Hou, Wen-Chi, Associate Professor, Ph.D., Case Western Reserve University, 1989.

Mark, Abraham M., Professor, Emeritus, Ph.D., Cornell University, 1947.

McGlinn, Robert, Associate Professor, Ph.D., Southern Illinois University Carbondale, 1976.

Mogharreban, Namdar Lecturer, Ph.D., Southern Illinois University Carbondale, 1989.

Phillips, Nicholas C. K., Associate Professor, Ph.D., University of Natal, 1967.

Tragoudas, Spyros, Associate Professor, Ph.D., University of Texas at Dallas, 1991.

Wainer, Michael S., Associate Professor, Ph.D., University of Alabama-Birmingham, 1987.

Wright, William E., Professor, D.Sc., Washington University, 1972.

Zargham, Mehdi R., Professor and Chair, Ph.D., Michigan State University, 1983.

Construction Management (Emphasis)

Students interested in construction management can take advantage of a partnership between Southern Illinois University Carbondale and John A. Logan College. Under this partnership, students can complete an Associate in Applied Science degree in Construction Management at John A. Logan College and a Bachelor of Science degree in Advanced Technical Studies at SIUC. (Students presently enrolled at SIUC may also take advantage of this unique opportunity).

Students who complete the Associate in Applied Science degree at John A. Logan College, who have an overall gpa of 2.25 (based on a 4.0 scale calculated by SIUC grading regulations) and who transfer into Advanced Technical Studies may apply for the Capstone Option. This Option gives maximum credit for previous academic and documented work experiences in a student's chosen occupational field and allows students to complete the requirements for the bachelor's degree within 60 semester hours at SIUC. See Chapter 3 for specifics regarding the Capstone Option.

This unique partnership between SIUC and John A. Logan College provides students enrolled in the Construction Management program at John A. Logan College with an opportunity to live on the SIUC campus while attending John A. Logan College. Students living in SIUC housing have access to all SIUC services including the Recreational Center, Health Service, Student Center, Morris Library, athletic events, registered student organizations and activities on campus. Daily shuttle bus service provides easy access to John A. Logan College from the SIUC campus.

Students interested in pursuing further training in the field of Construction Management may decide to apply for admission to the Master of Science degree program in Construction Management at Southern Illinois University Edwardsville, after completing a Bachelor of Science degree in Advanced Technical Studies at SIUC. This master's degree program in Construction Management at SIUE is scheduled to begin Fall 1999.

For more information regarding this unique program, contact Enrollment Services, College of Applied Sciences and Arts, Southern Illinois University Carbondale, Carbondale, IL. Phone (618) 453-7283, fax (618) 453-7286. Email: kentb@siu.edu, ASA website at <<http://www.siu.edu/~asa>> or contact John A. Logan College at (618) 985-3741, ext. 555.

Courses (CST)

303-3 Advanced Concrete Technology. Provides the student with knowledge of the design and use of specialty concrete, admixed concrete, architectural concrete, structural concrete in commercial construction, and precast concrete products. Knowledge of types and methods of steel reinforcement, concrete inspection procedures, and ASTM Testing Standards will be acquired. Successful completion of this course can lead to certification by the American Concrete Institute as Concrete Field Testing Technician-Grade I. Lecture/laboratory. Prerequisite: associate degree with construction technology major or consent of department.

307-3 Computer Applications in Construction. Will advance the computer training students received in the associate degree construction technology courses. Students will study advanced computer problems in estimating, scheduling, planning, marketing, mechanical system sizing, and performance. Students should learn to interpret computer-generated data and how to modify programs to meet changing industry needs. Prerequisite: associate degree in construction technology or consent of department.

319-1 to 15 Occupational Internship. Each student will be assigned to a University approved organization engaged in activities related to the student's academic program and career objectives. The student will perform duties and services as assigned by the preceptor and coordinator. Reports and assignments are required to be completed by the student. Hours and credits to be individually arranged. Mandatory Pass/Fail.

325-3 Quality Assurance in Construction. The student is introduced to the role of the construction inspector, will develop skills of communication with the trades and management, and will acquire knowledge of quality assurance systems, documentation techniques and significant legal aspects of construction failures. Lecture three hours. Prerequisite: 102, 103, 105, 125, 203, 225 and Applied Sciences and Arts 126, equivalent experiences, or consent of instructor.

350-1 to 31 Technical Career Subjects. In-depth competency and skill development and exploration of innovative techniques and procedures used in business, industry, professions, and health service occupations offered through various workshops, special short courses, and seminars. Hours and credit to be individually arranged. This course may be classified as independent study. Prerequisite: consent of instructor.

Curriculum and Instruction (Department, Majors, Minor [Child and Family Services], Courses)

The Department of Curriculum and Instruction offers three majors in its undergraduate program: early childhood with specializations in preschool/primary and child and family services; elementary education; and social studies. A minor in child and family services is also available, as well as courses for those students pursuing the standard high school certification program. The department offers programs to prepare students to qualify for the following Illinois teaching certificates: Early Childhood Certificate (for teaching ages 0-8); standard Elementary Certificate (for teaching in grades K-9); or Standard High School Certificate (for teaching in grades 6-12). Students may enter the department (1) directly from within the College of Education, (2) from the Pre-major program, (3) from other academic units, or (4) from other institutions of higher education.

Students may also wish to seek State of Illinois endorsement for middle level education. The academic adviser should be consulted about the Curriculum and Instruction courses which lead to middle level endorsement. Endorsement is arranged through the state and determined by a transcript analysis.

Early Childhood Major

This program encompasses the professional training needed to assume a variety of roles such as infant development specialists; early childhood teachers and administrators; teacher and parent educators; family service workers; and teachers of young children in elementary schools.

EARLY CHILDHOOD MAJOR – PRESCHOOL/PRIMARY-SPECIALIZATION

Students interested in teaching children 0-8 years of age in private or state-approved settings may elect to participate in the early childhood major leading to early childhood certification. Specifically designed to prepare future teachers of children up to the age of 8, this program will lead to the State of Illinois Early Childhood Certificate.

There are sequential steps for advancement in the early childhood major with the preschool/primary specialization program. Such advancement is based not only on continued satisfactory academic performance, but also on acceptable professional behaviors which the faculty deem essential for competent and effective educators of young children and families.

1. Completion of Curriculum and Instruction 245 and two other courses in the major with a grade of C or better, an overall grade point average of 2.25, and a favorable vote of the early childhood faculty.
2. Complete requirements for admission to the Teacher Education Program.
3. To be eligible for student teaching, a student must have attained a minimum grade point average of 2.50 in the major, successfully completed Curriculum and Instruction 227, 237, 245, 313, 317, 318, 319, 325, 327, 337, 404, 405, 413, 418, 419, 427, Education 312, Special Education 400; have made preliminary application for student teaching; and be approved by the coordinator of the early childhood major based on performance in the above courses. Applications for student teaching must be submitted within the first two weeks of the semester during which the student is enrolled in Curriculum and Instruction 318.

University Core Curriculum Requirements	41
To include ENGL 101, 102; SPCM 101; MATH 314; AD 101; HED 101; ENGL 121 or 204; HIST 110; CHEM 106, GEOL 110, PHYS 101 or 103; PLB 117, ZOOL 115 or PLB 115; PLB 301i, PLB 303i, or ZOOL 312i; POLS 114; PSYC 102; ANTH 202; HIST 202, 210, POLS 278, SOC 215 or 223.	
Preschool/Primary Specialization Requirements	58

Curriculum and Instruction 237, 245, 313, 317, 318, 319, 325, 405, 413, 418, 419, 427	40
Concentration Requirements: Curriculum and Instruction 227, 327, 337, 404, Psychology 301 and choice of Anthropology 300d, Psychology 303 or Sociology 321	18
Additional Requirements	35
Education 312, 401	14
Special Education 300, 412	6
Music 101	3
Additional hours for state teacher certification	12
Mathematics 114; Music 101	
Total	134

¹Required to meet non-western civilization/third world culture requirement.

Further enrichment in special education, infant development, administration of programs and family studies can be selected by contacting the adviser for a list of recommended courses.

EARLY CHILDHOOD MAJOR – CHILD AND FAMILY SERVICES SPECIALIZATION

This program in child and family services offers preparation leading to positions as administrators and/or teachers in non-public school child care programs, including day care centers, nursery schools, family day care homes, and college child care facilities; administrators or workers in residential living facilities for exceptional children; child care and family life specialists with social and public health agencies; home economics extension specialists in child care; specialists in family life and parenting education; and infant care specialists.

To be eligible for field experience, a student must have successfully completed Curriculum and Instruction 227, 237, 245, 317, 318, 327, 404, 419 and have consent of the field experience instructor. Likewise, a minimum of nine semester hours of course work must be taken from one of the recommended elective areas prior to enrollment in the field experience.

University Core Curriculum Requirements	41
Foundations: ENGL 101, 102; SPCM 101; MATH 110, 113 or MATH 114 and 314	
Disciplinary Studies: Choice of AD 101, MUS 103 or THEA 101; PE 101 or HED 101; FL 102, HIST 101a or 101b; ENGL 121 or 204; CHEM 106, GEOL 110, PHYS 101 or 103; PLB 117, ZOOL 115 or PLB 115; SOC 108; PSYC 102	
Integrative Studies: choice of ENGR 303i, GEOG 303i, PLB 301i, PLB 303i or ZOOL 312i; choice of ANTH 202, HIST 202, 210, POLS 278, SOC 215 or 223	
Child and Family Specialization Requirements	48
Curriculum and Curriculum 227, 237, 245, 317, 318, 327, 395, 402, 404, 405, 417, 419, 495	42
Psychology 303	3
Special Education 300	3
Electives	31
Recommended for Preschool Directors and Teachers: Curriculum and Instruction 325, 390h, 453, 498h; Accounting 210; Art 348; Health Education 402; Management 350; Physical Education 202, 309; Social Work 375, 383, 391.	
Recommended for Child/Family Care Specialists in Social Services: Curriculum and Instruction 390h, 498h; Health Education 440, 444; Psychology 305; Rehabilitation 405; Sociology 426; Social Work 375, 383, 391.	
Recommended for Residential Life Directors and Supervisors: Plant Biology 115; Finance 490; Health Education 334, 402; Management 350; Marketing 350; Psychology 451; Recreation 300; Special Education 401, 402, 403; Social Work 375, 383.	

Recommended for Infant Care Specialists: Plant Biology 115; Finance 490; Health Education 334, 402; Physical Education 309; Psychology 305; Social Work 375, 383, 391.

Total 120

Elementary Education Major

A Bachelor of Science degree with a major in elementary education entitles the student to apply for the State of Illinois Standard Elementary Certificate, which will allow the holder to teach in kindergarten through grade nine.

Admission. All students who plan to major in Elementary Education will first be admitted as Pre-Elementary Education students provided they meet the University's admission policy and have potential to meet Teacher Education Program requirements as stated in the College of Education section, above. Beginning freshmen will be granted pre-elementary education major status. Freshmen are advised by a College of Education academic adviser for the purpose of completing the courses required to become elementary education majors.

Transfer students must meet University admission requirements to be granted pre-elementary education major status for the purpose of advisement toward the elementary education major.

Students who are currently enrolled or previously attended SIUC in a major other than elementary education may request admission to the elementary education program as pre-elementary education majors for the purpose of advisement.

Transfer and reentering students who have earned more than 45 hours of transfer credit and have a grade point average of 2.2 to 2.5 will have their applications reviewed by the department to determine if they are admissible to the pre-elementary education major classification.

To be considered an elementary education major, students must have completed 45 semester hours with an overall grade point average of 2.5 (4.0 scale) and have obtained a satisfactory score on a pre-professional test of basic skills. In addition, students must have successfully completed the following University Core Curriculum Requirement courses: (a) Two of the following: Political Science 114, Psychology 102, History 110 and (b) English 101, 102 and Speech Communication 101 or equivalent.

Retention. There are sequential steps for advancement in the elementary education major. Such advancement is based not only on continued satisfactory academic performance, but also on acceptable professional behaviors which the faculty deem essential for competent and effective educators.

1. Initial retention in the elementary education major requires completion of two Curriculum and Instruction courses with a grade of C or better, attainment of an overall grade point average (gpa) of 2.5, and the favorable vote of the elementary education faculty. (Note: An overall minimum gpa of 2.5 is required to register for the following major courses: Curriculum and Instruction 312, 315, 423, 424, 426, and 435.)

2. Completion of the requirements for admission to the Teacher Education Program.

3. To be eligible for the professional semester the student must have attained a minimum 2.5 gpa in the major; completed Curriculum and Instruction 312, 315, and at least two of the following with a grade of C or better: Curriculum and Instruction 423, 424, 426, 427 or 435; have made preliminary application for the professional semester; and be approved by the department based on performance in all major courses.

Completion of the major requires: completion of Curriculum and Instruction 312, 315, 423, 424, 426, 427, and 435 with a grade of C or better, a minimum gpa of 2.5 in the major, and an overall gpa of 2.5. Eighteen hours of electives must be selected from one of the disciplines in the following areas: mathematics and science, humanities, or social studies. Nine of the eighteen hours must be at the 300/400 level.

ELEMENTARY EDUCATION MAJOR

<i>University Core Curriculum Requirements</i>	41
To include ENGL 101, 102; SPCM 101; MATH 314; AD 101; HED 101; ENGL 121 or 204; HIST 110; CHEM 106, GEOL 110 or PHYS 101; PLB 117, ZOOL 115, or PLB 115; PLB 301i, PLB 303i or ZOOL 312i; POLS 114; PSYC 102; ANTH 202, HIST 202, 210 or SOC 215.	
<i>Elementary Education Major Requirements</i>	40
Curriculum and Instruction 312, 315, 423, 424, 426, 427, 435	22
Concentration	18
To be selected from one of the following areas: Mathematics and Science, Humanities or Social Studies.	
<i>Professional Education Requirements</i>	28
See Teacher Education Program.	
<i>Additional State Certification Requirements</i>	12
To include Mathematics 114; Music 101 or 103; Physical Education 101; Foreign Languages and Literatures 313i, History 304i or History 101a	
<i>Electives</i> (seven hours must be in Curriculum and Instruction courses)	7
<i>Total</i>	128

¹Required to meet non-western civilization/third world culture requirements.

Majors To Prepare For Secondary School Teaching

Students who elect to pursue a Bachelor of Science degree in the College of Education for purposes of preparing to teach in junior or senior high schools should select academic majors and minors from the areas included in the listing below. Included in the column headed Major are those areas for which Southern Illinois University Carbondale has approval from the State of Illinois Office of Education and from the State Teacher Certification Board.

TEACHING AREA	MAJOR	MINOR ¹
Agriculture, General ²	X	
Art	X	
Biological Sciences	X	X
Black American Studies		X
Economics		X
English	X	X
Foreign Languages ⁴	X	X
Health Education	X	
History	X	X
Mathematics	X	X
Microbiology		X
Music	X	X
Philosophy		X
Physical Education	X	X
Physiology		X
Political Science	X	X
Psychology		X
Social Studies	X	
Sociology		X
Theater		X
Workforce Education and Development	X	X
Business Education Specialization		
Home Economics Education Specialization		
Zoology ³	X	X

¹All minors used for certification purposes must meet the minimum number of hours specified in State Board Document I.

²Requirements for the major in general agriculture may be found in the catalog section titled General Agriculture.

³A student with a major in zoology should have a minor in plant biology in order to meet certification standards for teaching biology at the high school level.

⁴Majors and minors are offered in the specific languages. The student should consult the academic adviser for information concerning the majors and minors available.

Each student who wishes to apply for the Standard High School Certificate through the certification entitlement process at Southern Illinois University Carbondale must fulfill the following requirements of the University's Teacher Education Program:

1. The individual must have completed a baccalaureate program at Southern Illinois University Carbondale.

2. The individual must have completed one of the approved majors above.

3. The individual must have fulfilled requirements for certification related to the state and federal constitutions and an American government or American history course by either (a) taking Political Science 114 and History 110; (b) taking a course in American history and political science other than those listed in (a) above, and passing the constitution test administered by Southern Illinois University Carbondale; (c) presenting written notification from another institution that a course in American history and political science has been passed and that the Illinois and United States Constitutions tests have been passed.

4. The individual must have fulfilled certification requirements in health which can be satisfied by taking Health Education 101.

5. The individual must have completed the sequence of professional education courses with a grade of C or better. See Teacher Education Program.

6. The individual must have completed a special methods course in the major.

7. The individual must have fulfilled State Teacher Certification Board University Core Curriculum requirement distributions in the required areas: communication skills, science and mathematics, social sciences, humanities, health and physical development.

Students who wish to prepare to teach in middle school or junior high schools should inform their advisers of this interest early so they can include in their programs those courses which will prepare them for teaching in that area and meet Illinois State Board of Education Document 1 requirements. The student's electives should be planned to include course work in a subject matter area of major interest.

Social Studies Major

This program is designed to meet the needs of students who wish to teach social studies in the middle/junior high school or the senior high school. The graduate of this program will be qualified to teach at least five social studies subject matter areas, based on the requirements of the Illinois State Teacher Certification Board.

The complex nature of our competitive, pluralistic society mandates social studies curricula which prepares future citizens to comprehend and adjust to a changing social environment. The goal of the social studies program is to prepare prospective social studies teachers for the role of leadership in guiding middle school, junior, and senior high school students to live as effective citizens in a democratic society.

Content and professional course work provide the foundation used in the social studies methods course, where teaching methods and strategies are explored and experienced. A series of clinical experiences provide the social studies major an opportunity to use the knowledge and skills acquired in the program. A cooperative teaching and university supervisor will assist the student to blend knowledge and skills with the adolescent behavior and curriculum needs.

The social studies major may draw electives either from the middle school area, an expanded social sciences area, or from the senior high school content area. The middle school electives enable the student to meet the Illinois Middle School Endorsement requirements. The secondary school content electives enable the student to double the required hours in political science or one of the social science fields.

University Core Curriculum Requirements	41
To include ENGL 101, 102; Any Mathematics prefix courses, except 107 and 114; SPCM 101; AD 101, ENGL 203, HIST 201, MUS 103 or THEA 101; HED 101 or PE 101; FL 102, HIST 101a, or HIST 101b; ENGL 121 or ENGL 204; CHEM 106, GEOL 110, PHYS 101, or PHYS 103; PLB 115, PLB 117, or ZOOL 115; POLS 114 and PSYC 102; HIST 210; ENGR 301i, GEOG 303i, PLB 301i, or ZOOL 312i	
Requirements for Major in Social Studies	(9) + 42 ¹
History 210, 300 and 301	(3) + 6
History 205a, 205b, 3 hours world history at the 300-400 level	9
Political Science 114, 213, political science elective	(3) + 6
Economics 240, 241, economics elective	9
Geography 300 and two geography electives	9
Curriculum and Instruction 469	3
Professional Education Requirements (See Teacher Education Program)	28
Electives	9 ²
Total	120

¹Although the hours shown in parenthesis are required for the major, they will also count toward the 41 hours required in University Core Curriculum.
²Note: Students seeking middle school endorsement must include Curriculum and Instruction 462 and 473 as electives. Students wishing a senior high school content specialization must choose all of their electives from one of the following fields: American History, World History, Political Science, Economics or Geography. Students not seeking middle school endorsement or senior high content specialization must choose Anthropology 104 and Sociology 301.

Child and Family Services Minor

The minor in child and family services is designed to provide students with basic knowledge in early childhood or family studies. The selection of coursework is flexible so that courses can be adapted to the special interests of students with diverse backgrounds and goals. Students are expected to honor all prerequisites in their selection of courses. A minimum of 16 hours of coursework is required as follows:

Curriculum and Instruction 227, 237	6
Electives to be chosen from the following:	10
Early Childhood Emphasis: CI 245, 337, 390h, 404, 498h	
Family Studies Emphasis: CI 327, 390q, 419, 498q	

Courses (CI)

- 199-1 The Library as an Information Source.** Designed to expose undergraduate students to the basic concepts and structures of the library. This would enable students to use their knowledge in completing reading and term paper assignments as well as in gaining confidence for independent work in the library.
- 209-2 Philosophy of Creativity.** The creative process in developing child. Emphasis will be upon the levels, dimensions and individuality of creativity as it is manifested, observed and nurtured in preschool children.
- 212-2 Reading College Texts.** Textbooks, supplementary materials, and evaluative instruments will be analyzed. Attention will be given to determining usability, feasibility, learnability, and teachability of instructional materials. The following factors will be investigated: content structure and organization, concept density, conceptualization levels, readability, and format.
- 213-2 Understanding the Elementary School Child.** Child development concepts necessary for understanding the elementary school child, with information provided on preschool, primary, and intermediate grade levels.
- 227-3 Marriage and Family Living.** (Same as Women's Studies 286.) [IAI Course: S7 902] A study of relationships and adjustments in family living, designed largely to help the individual. To help student better understand the recent changes that have occurred in marriage and the family in the United States.
- 237-3 Early Child Development I.** Principles of development and guidance of children as applied to home situations. Directed observations of children from 0 through 6. Understanding the social, emotional, physical, and intellectual development of the preschool child.
- 245-3 Professional Development Seminar.** [IAI Major Course: ECE 911] Introduction to early childhood with an emphasis on personal and professional development as preparation for work with children, parents, and professional peers. Acquaints students with the varied career options, approaches to programming, and professional personnel in working with children under eight. Some field trips will be taken.
- 258-1 to 4 Credit for Work Experience.** This course includes work experiences relevant to the student's major program, such as work in day care centers, teacher's aid in public school, or with federal, state, or local agencies or programs that deal with children. Prerequisite: 12 semester hours completed with a grade of B or better in the student's major area of concentration in the C&I department and consent of undergraduate affairs committee, Department of Curriculum and Instruction.

312-3 Teaching Reading in the Elementary School. (Same as Special Education 312.) Examination of the reading process with emphasis on the factors and conditions that affect reading. Emphasis on the formula of a philosophy of reading and its implications in relation to methods, materials, organizational procedures, and evaluation techniques. Prerequisite: junior standing and an overall gpa of 2.5.

313-4 Emergent and Early Reading in the Young Child, 0-8. The examination of factors and conditions which affect emergent and early reading from birth to eight years of age. Emphasis on the formulation of a philosophy regarding children's development and emergent/early literacy. The philosophy provides the foundation upon which to base decisions regarding family and classroom practices, methods, materials, organizational procedures and evaluation techniques. Survey and analysis of appropriate children's literature to support each level of literacy development will be integrated throughout the course. Prerequisite: 318; or concurrent enrollment in 318; or consent of instructor.

315-3 Teaching Mathematics in the Elementary School. (Same as Special Education 315.) Objectives of mathematics education, learning theory as it is related to mathematics, major concepts to be taught, modern approaches to instruction, with emphasis on the use of concrete learning aids. Four class hours and two laboratory hours per week. Prerequisite: junior standing and an overall gpa of 2.5. Mathematics 114 and 314, or consent of instructor.

316-2 Early Childhood Education Methods and Curriculum (K-3). Philosophy and principles underlying the teaching of four-to-eight-years old. Emphasis upon organization, equipment, materials, and methods for promoting growth of young children. Prerequisite: concurrent enrollment in Education 302.

317-3 Guiding Children's Development in the Learning Process. The specific behaviors of parents and teachers of children 3 years to 8 years are examined to determine the effect they have on the development of children's behavior. Guiding behavior through play is emphasized. Prerequisite: 237 or concurrent enrollment in 237.

318-4 Instructional Methods for the Preschool Child. The purpose of this class is to plan the optimum learning environment for the preschool child. Emphasis will be placed on integrated learning and appropriate instructional methods in the content areas of language arts, mathematics, science and social studies. Practicum experiences will be provided in a preschool setting for one half-day per week for the semester for all students. Preschool/primary certification students are required to have concurrent enrollment in Education 312 with placement one half day per week for the semester in a kindergarten setting. Child and Family Services specialization students must enroll for an additional one hour of 395 to provide practical experiences one-half day per week for the semester in a community preschool setting. Prerequisite: 237, 317, consent of instructor for non-early childhood majors or graduate students.

319-3 Instructional Methods for the Primary Child. The purpose of this class is to plan the optimum learning environments for kindergarten through the primary grade three. Emphasis will be placed on integrated learning and appropriate instructional methods in the content areas of language arts, mathematics, science and social studies. Early Childhood Certification students must have concurrent enrollment in one hour of Education 312 to provide practical experience one half day per week for the semester in primary settings. Prerequisite: 237, 317, 318, consent of instructor required for non-early childhood majors, and/or graduate student.

324-2 Early Childhood Social Learning Methods. The objectives, procedures, and methods of designing and implementing social learning environments for early childhood education programs; including an overview of significant early social learning theory and practice. Two hour block required for practicum experiences.

325-3 Young Children and the Arts. The development of creativity in young children. Methods and curriculum that foster creativity in graphic expression, music and creative movement among preschool and primary school children. Prerequisite: Music 101 or consent of instructor.

327-3 Family Studies. Study of changing patterns in family living throughout the family life cycle. Insights into common current family problems typical of each stage of the family life cycle. Prerequisite: 227.

337-3 Early Child Development II. The specific behaviors of both parents and teachers are examined to determine the effect they have on the development of the preschool child's desirable and undesirable behavior. Prerequisite: 237.

390-1 to 3 Readings - Middle School. In-depth reading in various areas of education as related to the fields of (a) curriculum, (b) supervision for instructional improvement, (c) language arts, (d) science, (e) mathematics, (f) reading, (g) social studies, (h) early childhood education, (i) elementary education, (j) middle school, (m) instruction, (n) educational media, (q) family studies. Prerequisite: consent of instructor.

393-1 to 6 Individual Research in Education, Middle School. The selection, investigation, and writing of a research topic under the personal supervision of a member of the departmental staff in one of the following areas: (a) curriculum, (b) supervision for instructional improvement, (c) language arts, (d) science, (e) mathematics, (f) reading, (g) social studies, (h) early childhood education, (i) elementary education, (j) middle school, (m) instruction, (n) educational media, and (o) environmental education, (q) family studies. Maximum of 6 hours to be counted toward a bachelor degree. Prerequisite: consent of instructor.

395-1 to 3 Field Observation. Students will participate in practical experiences for young children in community settings.

400-3 Simulation and Gaming. Analyzes the role of simulation and gaming in instruction, the availability of commercial games, board games, simulation devices, and computer games, and preparation of teacher-make games and simulations.

402-3 The Study of Cultural Diversity in Education and Family Services. The student examines origins, characteristics of behavior, learning patterns, family constellations, and lifestyles of the diverse cultural groups in our community, state, and nation. Students will identify their own cultural background and biases; recognize diversity resulting from ethnic origin, gender, age, or disability; and experience ways of learning

about cultures other than their own that promote constructive communication and integration into all aspects of schooling, teaching, and family services.

404-3 Infant Development. Current theories and knowledge concerning growth and development of infants with related laboratory field observations. Prerequisite: 237 or Psychology 301 or equivalent.

405-4 Methodologies For Group Care of Infants and Toddlers. Application of theories of development of children up to age 3 in a child-centered environment. Development of competencies and skills needed by early childhood professionals. Two hour seminar and four hour practicum required. Prerequisite: 318 and 404.

407-3 to 9 (3 per topic) Diagnostic Teaching Strategies for Classroom Teachers. Diagnostic instruments and teaching techniques with an emphasis on understanding and teaching students underachieving in the areas of: (c) language arts, (e) mathematics, and (f) reading. Prerequisite: (c) 423, (e) 315, (f) 312, and/or consent of instructor.

409-3 Creative Teaching. To assist pre- and in-service teachers in acquiring methods and materials that will improve instruction in the public school classroom, with special attention to the characteristics and needs of students. Prerequisite: Education 315.

410-2 Creative Writing in the Public School. Techniques of encouraging creative writings in the schools.

412-3 to 15 (3 per topic) Improvement of Instruction in Early Childhood Education (Preschool-Grade 3). Examines recent findings, current practices, and materials used in early childhood education in the fields of (c) language arts, (d) science, (e) mathematics, (f) reading, and (g) social studies. Prerequisite: specialized methods course for the field of study selected by the student.

413-3 Language Development of the Young Child, 0-8. The normal language development and communication skills of the young child will be the focus of this course; attention will be given to an integrated, holistic philosophy toward development and learning in young children ages 0-8; specifically focusing upon social and environmental influences on the development of language and literacy; students will observe, listen, record, and analyze samples of young children's communication.

415-3 Modern Approaches to Teaching Middle School Mathematics (Grades 4-8). Examines current mathematics materials and teaching approaches. Hands-on experience with a multitude of teaching aids including microcomputers and problem solving materials. Student exchange of ideas and discussion of activities for classroom use. Prerequisite: 315 or consent of instructor and overall gpa of 2.5.

417-3 Administration of Early Childhood and Family Programs. Planning and organizing programs for preschool or residential facilities including budgeting, staffing, programming, and evaluation. Prerequisite: 318.

418-3 History and Philosophy of Early Childhood Education. A survey of the history and philosophies of early childhood education with implications for current program practices. Students' analysis of their personal philosophy of early childhood education. Prerequisite: senior or graduate standing; 318; or consent of instructor for graduate students.

419-3 Child, Family and Community Involvement. This course is designed to provide students with the knowledge and skills needed to work successfully with parents and parent groups in individual and community settings. The focus will be on strengthening adult-child relationships and parent-staff relationships in home, school and community settings. Parent involvement in early childhood programs and parent education will be stressed. Prerequisite: 227 and 318; or consent of instructor for non-early childhood majors and/or graduate students.

420-3 Teaching the Adult Functional Illiterate. The emphasis in the course will be on understanding the problems of the individual whose literacy level does not permit full participation in the economic, social, and civic opportunities available to the majority of citizens. Prerequisite: permission of instructor.

423-3 Teaching Elementary School English Language Arts. Oral and written communication processes with emphasis on the structure and process of the English language arts in the elementary school. Specific attention to the fundamentals of speaking English, writing, spelling, and listening. Study of learning materials, specialized equipment and resources. Prerequisite: English 101, 102, Speech Communication 101 or equivalent, and a 2.5 overall gpa.

424-3 Teaching Elementary School Social Studies. Emphasis on the structure and process of teaching social studies in the elementary school setting. Specific attention to the fundamentals of developing social studies objectives, planning units, developing a general teaching model, organizing the curriculum, and evaluating behavioral change. Study of learning materials, specialized equipment, and resources. Prerequisite: Political Science 114, Psychology 102, History 110, Education 315; and overall gpa of 2.5.

426-3 An Introduction to Teaching Elementary School Science. Content and methods of elementary school sciences, grades K-8. Emphasis on the materials and strategies for using both traditional and modern techniques of science education. One or more field trips. Prerequisite: junior standing and an overall gpa of 2.5.

427-4 Science Process and Concepts for Teachers of Grades N-8. (Same as Botany 462.) Specifically designed to develop those cognitive processes and concepts needed by elementary school teachers in the teaching of modern science programs. Lecture three hours per week, laboratory two hours per week. One or two additional field trips required.

428-3 Inquiry Skills for Teaching Junior and Senior High School Science. The major focus will be the application of inquiry skills as used in all areas of science instruction at the junior and senior high school levels; students will be expected to demonstrate mastery of basic and integrated science process skills through conducting and reporting results of science investigations.

435-3 Literature for Children. Studies types of literature; analysis of literary qualities; selection and presentation of books and other media for children; and, integration of literature in preschool, elementary, and library settings. Prerequisite: junior standing, a minimum of 6 hours of college-level English, and an overall gpa of 2.5.

437-3 Instructional Technology in Training Programs in Business and Industry. Examines the role that performance and instructional technology plays in current training practices in business and industry. The or-

ganization, staffing, budgeting, and evaluation of training and development departments is presented. The kinds of performance problems typically encountered by corporate training departments are addressed. Field trips are expected.

441-3 Multicultural Literature for Children. Identification, selection and evaluation of books and audiovisual materials dealing with various cultural groups such as African Americans, Asian Americans, Native Americans, Hispanic Americans and European Americans. Prerequisite: 435 or consent of instructor.

445-3 Literature for Young Adults. The selection and use of books and other educational media for students in the junior high and senior high school.

452-3 Small Format Video Production in Education. An introduction to small format black-and-white and color video equipment in educational settings. Emphasis is on understanding the role of video as an instructional and informational tool and on the principles of design that determine instructional video's effectiveness.

455-3 Design and Development of Self-Instruction Systems. Introduction to the theory and practice of self-instruction systems with a particular emphasis on the creation of instruction for mastery. Various self-instruction systems are reviewed and procedures for designing, developing, and evaluating these systems are discussed. Includes planning a teaching unit and creating a self-instruction package for the unit.

458-3 Classroom Teaching with Television. Classroom utilization of open and closed circuit television. Emphasis is placed on the changed role of the classroom teacher who uses television. Evaluation of programming, technicalities of ETV, and definition of responsibilities are included. Demonstration and a tour of production facilities are provided.

461-3 Content Literacy Strategies. For middle grade teachers who desire strategies for helping students comprehend content encountered in narrative and expository text. Materials, lesson plans, and teaching strategies to help middle grade students move from basic to more advanced reading, writing, studying, and learning skills are featured.

462-3 Middle and Junior High School Programs. Focuses on the development of middle and junior high school curriculum and the identification of instructional activities which relate to the early adolescent. Emphasis is placed on development of advisory activities, developmentally appropriate teaching strategies, interdisciplinary unit planning, teaming and technologies and materials appropriate for teaching early adolescents, ages 10-14. Prerequisite: Education 310, 315 or consent of instructor.

463-3 Meeting the Social and Emotional Needs of Gifted Children. Deals with strategies for meeting the social and emotional needs of gifted children in the classroom. In particular, this course focuses on low-incidence gifted students, including underachievers, minorities and females. The course will not only cover particular curriculum and instruction strategies designed for this population but also will emphasize strategies for teachers to be more facilitative in assisting these students to accept and realize their potential. Prerequisite: 467 or consent of instructor.

464-2 Student Activities. Analysis of extra-class activities and programs in public schools with a focus on the status, trends, organization, administration, and problems.

465-3 Advanced Teaching Methods. The focus is on a variety of teaching methods and strategies which are appropriate for secondary and/or post-secondary educators. Both individual and group methods are emphasized.

467-3 Methods and Materials in the Education of the Gifted. Content focuses on the most appropriate instructional strategies and materials to be utilized with the gifted. Time spent practicing teaching models, designing materials and developing teaching units. Emphasis placed on techniques for individualizing instruction for the gifted and talented students.

468-3 Science Methods for Junior and Senior High Schools. A performance-based approach to instructional skills common to teaching natural science at the junior and senior high school levels. Three class hours and one micro teaching laboratory hour per week. Prerequisite: Education 315 or consent of instructor.

469-3 Teaching Social Studies in the Secondary School. Emphasis is placed upon instructional strategies and curricular designs in social studies at the junior and senior high school levels. Prerequisite: Education 315 or consent of instructor.

473-3 Teaching in Middle Level Schools. This course is designed to acquaint students with the issues of teaching young adolescents and the unique role teachers must play as interdisciplinary team members, advisers and resource persons to connect schools and communities. Information from current research, area specialists and exemplary practitioners will be used to extend appropriate teaching strategies and supplement background knowledge on special topics related to social, emotional and physical development as it relates to the curricula. Attention is given to the development of classroom resource files for interdisciplinary and advisory programs. Prerequisite: 462, Education 310, 315 or permission of the instructor.

480-3 Introduction to Computer Based Education. Introduction to microcomputers and their uses in the classroom, including computer evolution, languages and authoring systems, instructional modalities, word processing, instructional management, and software evaluation. Utility functions and basic commands in programming are also introduced.

481-3 Instructional Applications of Mainframe Computers. Design, development, and programming of computer-assisted instructional materials using interactive, timesharing computer systems. Study of lesson design and programming, including branching and program flow, display techniques, response judging, teaching strategies, organization, and style.

482-3 Instructional Internet Telecommunications. An introduction to the use of the Internet for instruction. Emphasis is placed upon examining the emerging use of Internet based resources and the role of the teacher in preparing to integrate network based learning activities in the classroom. Additional emphasis is placed on identifying skills needed by learners for involvement with network resources. A variety of selected commercial and non-commercial computer based networks linked to the Internet are examined.

483-6 (3,3) Instructional Applications for Microcomputers. A study of the development and use of microcomputers systems in educational settings. Emphasis is upon the characteristics, capabilities, applications, and implications of microcomputers and microcomputer lessons, with case studies of their integration into the teaching, learning process.

484-3 Multimedia Presentation Systems. Provides learners with skills in designing, developing and conducting classroom based multimedia presentations that involve computer and other electronic delivery systems including videodiscs and CDROMS. Emphasis is placed upon identifying major activities that contribute to effective multimedia presentations regardless of computing software or visual delivery system employed.

486-3 Instructional Authoring Systems. Designed to give students experience using authoring systems, languages and utilities for the design, production, and integration of computer assisted instruction into educational settings. Tools will include Superpilot, Author, and various commercial and consortium authoring tools. Prerequisite: 480 or consent of instructor.

487-3 Microcomputer Applications for Teachers. Laboratory instruction in the use of the microcomputer and software applications representative of those used by the teacher or education specialist in educational settings. An emphasis is placed upon developing skills used by teachers or education specialists which enhance and facilitate the education process.

495-2 to 8 Field Experience. Supervised learning experiences in settings for children and families and public agencies. Prerequisite: 318, 319, 405 and consent of instructor.

496-2 to 6 (2 to 4 per semester) Field Study Abroad. Orientation and study before travel, readings, reports, and planned travel. Includes visits to cultural and educational institutions. Maximum credit hours in any term is 4.

498-1 to 15 (1 to 3 per topic) Workshops in Education. Critical evaluation of innovative programs and practices. Acquaints teachers within a single school system or in a closely associated cluster of school systems with the philosophical and psychological considerations and methods of implementation of new programs and practices in each of the following areas: (a) curriculum, (b) supervision for instructional improvement, (c) language arts, (d) science, (e) mathematics, (f) reading, (g) social studies, (h) early childhood education, (i) elementary education, (j) the middle school, (k) secondary education, (l) school library media, (m) instruction, (n) educational technology, (o) environmental education, (p) children's literature, (q) family studies, (r) computer based education, (s) gifted and talented education, and (t) teacher education. Maximum of six hours toward a master's degree. Prerequisite: consent of instructor.

Curriculum and Instruction Faculty

Aikman, Arthur L., Professor, *Emeritus*, Ph.D., Southern Illinois University Carbondale, 1965.

Alston, Melvin O., Professor, *Emeritus*, Ed.D., Columbia University, 1945.

Appleby, Bruce C., Professor, *Emeritus*, Ph.D., University of Iowa, 1967.

Barrette, Pierre, Associate Professor, Ed.D., University of Massachusetts, 1971.

Bauner, Ruth E., Associate Professor, *Emerita*, Ph.D., Southern Illinois University Carbondale, 1978.

Becker, Jerry P., Professor, Ph.D., Stanford University, 1967.

Bedient, Douglas, Professor, Ph.D., Southern Illinois University Carbondale, 1971.

Boykin, Arsene O., Associate Professor, *Emeritus*, Ed.D., University of Illinois, 1964.

Bradfield, Joyce M., Instructor, *Emerita*, M.A., George Peabody College for Teachers, 1946.

Brown, Bill, Instructor, *Emeritus*, M.Ed., University of Missouri, 1946.

Buser, Margaret, Assistant Professor, *Emerita*, M.S.Ed., Indiana University, 1966.

Butts, Gordon K., Professor, *Emeritus*, Ed.D., Indiana University, 1956.

Campbell, James A., Associate Professor, Ph.D., Ohio State University, 1978.

Casey, John P., Professor, *Emeritus*, Ed.D., Indiana University, 1963.

Copenhaver, Ron W., Associate Professor, Ed.D., Indiana University, 1978.

Coscarelli, William, Professor, Ph.D., Indiana University, 1977.

Cox, Dorothy, Assistant Professor, *Emerita*, Ph.D., Southern Illinois University Carbondale, 1976.

Dale, Doris C., Professor, *Emerita*, D.L.S., Columbia University, 1968.

DeWeese, Jewel V., Instructor, *Emerita*, M.S.Ed., Southern Illinois University Carbondale, 1971.

DeWerff, Marla, Lecturer, M.S., Southern Illinois University Carbondale, 1993.

Dixon, Billy G., Associate Professor and Chair, Ph.D., Southern Illinois University Carbondale, 1967.

Eddleman, E. Jacqueline, Associate Professor, *Emerita*, Ph.D., Southern Illinois University Carbondale, 1970.

Edwards, Troy W., Professor, *Emeritus*, Ed.D., Indiana University, 1954.

Eichholz, Barbara, Lecturer, *Emerita*, Ph.D., Southern Illinois University Carbondale, 1986.

Erickson, Lawrence, Professor, Ph.D., University of Wisconsin, 1972.

Gilbert, Sharon, Associate Professor, Ph.D., Ohio State University, 1988.

Grace, Barbara E., Lecturer, M.S., Southern Illinois University Carbondale, 1985.

Harrington, Mary-Margaret, Assistant Professor, Ed.D., George Peabody College of Vanderbilt University, 1995.

Hill, Margaret K., Professor, *Emerita*, Ed.D., Boston University, 1948.

Hungerford, Harold R., Professor, *Emeritus*, Ph.D., Southern Illinois University Carbondale, 1970.

- Jackson, James**, Associate Professor, Ph.D., University of Wisconsin, 1976.
- Jackson, Michael**, Associate Professor, Ed.D., University of Florida, 1971.
- Jones, Dan R.**, Associate Professor, Ed.D., Indiana University, 1978.
- Jones, Jennie Y.**, Assistant Professor, *Emerita*, A.M., University of Illinois, 1949.
- Karmos, Ann**, Associate Professor, Ph.D., Southern Illinois University Carbondale, 1975.
- Killian, Joyce E.**, Professor, Ph.D., Pennsylvania State University, 1980.
- Lamb, Morris L.**, Associate Professor, *Emeritus*, Ed.D., University of Oklahoma, 1970.
- Leming, James**, Professor, Ph.D., University of Wisconsin, 1973.
- Lindberg, Dormalee H.**, Professor, *Emerita*, Ed.D., University of Missouri, 1969.
- Lumpe, Andrew T.**, Assistant Professor, Ph.D., Kansas State University, 1996.
- Matthias, Margaret**, Professor, *Emerita*, Ph.D., Southern Illinois University Carbondale, 1972.
- McIntyre, D. John**, Professor, Ed.D., Syracuse University, 1977.
- Meyer, Edra T.**, Instructor, *Emerita*, M.S., Southern Illinois University Carbondale, 1956.
- Moberly, Deborah**, Lecturer, Ph.D., Southern Illinois University Carbondale, 1996.
- Moore, Eryn E.**, Assistant Professor, *Emerita*, Ph.D., Southern Illinois University Carbondale, 1976.
- Nelson, JoAnn**, Assistant Professor, *Emerita*, Ph.D., University of Illinois, 1980.
- Norris, William**, Associate Professor, *Emeritus*, Ed.D., Indiana University, 1973.
- Pearlman, Susan F.**, Associate Professor, Ph.D., University of Missouri, 1987.
- Post, Donna M.**, Associate Professor, Ph.D., Pennsylvania State University, 1990.
- Pultorak, Edward, Jr.**, Associate Professor, Ph.D., Indiana State University, 1988.
- Quisenberry, James D.**, Associate Professor, *Emeritus*, Ph.D., Indiana University, 1972.
- Quisenberry, Nancy L.**, Professor, Ed.D., Indiana University, 1971.
- Randolph, Victor**, Professor, *Emeritus*, Ph.D., George Peabody College for Teachers, 1942.
- Seiferth, Berniece B.**, Professor, *Emerita*, Ed.D., University of Missouri, 1955.
- Shelton, Vivian H.**, Assistant Professor, *Emerita*, M.S.Ed., Southern Illinois University Carbondale, 1965.
- Shepherd, Terry R.**, Associate Professor, *Emeritus*, Ph.D., University of Illinois, 1971.
- Shrock, Sharon A.**, Professor, Ph.D., Indiana University, 1979.
- Sloan, Fred A.**, Professor, *Emeritus*, Ed.D., George Peabody College of Vanderbilt University, 1959.
- Smith, Lynn C.**, Associate Professor, Ph.D., University of Georgia, 1984.
- Solliday, Michael**, Associate Professor, Ph.D., Southern Illinois University Carbondale, 1975.
- Spigle, Irving S.**, Associate Professor, *Emeritus*, Ed.D., Indiana University, 1955.
- Starbuck, Sara**, Lecturer, M.S., Southern Illinois University Carbondale, 1985.
- Volk, Gertrude L.**, Professor, Ph.D., Southern Illinois University Carbondale, 1983.
- Waggoner, Jan**, Associate Professor, Ed.D., Memphis State University, 1990.
- Wendt, Paul R.**, Professor, *Emeritus*, Ph.D., University of Minnesota, 1948.
- Wise, Kevin C.**, Associate Professor, Ed.D., University of Georgia, 1983.
- Wood, Ruth B.**, Instructor, *Emerita*, M.S., University of Illinois, 1948.

Criminal Justice

(SEE ADMINISTRATION OF JUSTICE)

Dental Hygiene (Major, Courses)

The program leading to a baccalaureate degree in dental hygiene is designed to prepare the graduate to successfully enter the oral health profession of dental hygiene in any one of the six designated roles of the dental hygienist as defined by the American Dental Hygienists' Association: clinician, educator/health promoter, manager, researcher, consumer advocate and change agent. In addition, the graduates are prepared to continue their education in graduate or professional programs. The curriculum is designed to assist students in the development of knowledge, skills, attitudes and values that will enable them to adapt to a complex and changing health care delivery system. Special emphasis is placed on the development of skills related to periodontal disease, skills and attitudes to meet the needs of the geriatric population, and access to care for those persons unable to attain care, especially the underserved rural segment of the population. Students are required to complete all dental hygiene courses with a grade of C or higher.

Dental hygiene is a licensed profession. In order to meet licensure requirements, the student must graduate from an accredited program and successfully pass a written National Board Examination, as well as the appropriate State/Regional Practical (clinical) Board Examination.

Admission requirements are the same as for all the baccalaureate entrance requirements at SIUC. Once accepted into the University, the student must submit a separate application to the dental hygiene program. All applicants who apply to the dental hygiene program are evaluated on high school mathematics and science grades, ACT scores, college mathematics and science grades, overall grade point average and earned credits according to SIUC calculations, and previous experience as dental assistant or experience in any health related field. In order to be considered for admission into the professional sequence, you must be accepted into Southern Illinois University Carbondale and have completed a minimum of 35 semester hours of college credit. These hours must include the following courses or approved substitutions: English 101, English 102, Mathematics 108 or 113, Zoology 118, Psychology 102, Sociology 108, Microbiology 201, Health Care Professions 241 and Chemistry 140a,b. Prospective students may complete the University Core Curriculum and the basic science courses at other colleges or universities as well as at SIUC. Thirty-six students begin the professional sequence in fall semester. In addition to textbooks and tuition, expenses of approximately \$2,500 are required to cover the cost of instruments, uniforms and other professional supplies.

The dental hygiene program offers an on-site clinic to provide the student with practical clinical instruction. Students perform dental hygiene services in the clinic under the direct supervision of dental hygiene faculty composed of licensed dental hygienists and licensed dentists. Students also are involved in the provision of care and education through a variety of community projects. The program is served by an advisory committee composed of representatives from community dental practices, dental education, dental industry and the professional community.

The program also is designed to serve as a degree completion program for dental hygienists who have completed an associate degree in dental hygiene from any accredited dental hygiene program. The Capstone Option is available to eligible students who have obtained an Associate of Applied Science with a 2.25 (4.0 scale) or higher gpa.

The Dental Hygiene program has a Linkage Agreement with Southeastern Illinois College, Rend Lake College and Shawnee College. If you have questions about this agreement, contact the community college advisor or SIUC Health Care Professions at (618) 453-8801.

The program in dental hygiene is accredited by the Commission on Dental Accreditation, a specialized accrediting body recognized by the Commission on Recognition of Post-secondary Accreditation and by the United States Department of Education. The Commission on Dental Accreditation can be contacted at 312 440-2719 or at 211 East Chicago Avenue, Chicago, IL 60611.

Bachelor of Science Degree, College of Applied Sciences and Arts

<i>University Core Curriculum</i>	41
Including: CHEM 140a, ¹ ENGL 101 and 102, MATH 108, SPCM 101, PSYC 102, SOC 108 and ZOOL 118 ¹ .	
<i>Requirements for Major in Dental Hygiene</i>	79
Including: DH 101, 206, 207, 210, 212, 218a,b, 220, 226, 233, 247, 315, 318, 320, 322, 340, 341, 347, 348, 355, 414, 415, 440, 441 and 442, HCP 241, CHEM 140b, FN 215, HCM 365 and MICR 201	
<i>Total</i>	120

¹These two courses are required for a major in dental hygiene and are approved substitutions for the University Core Curriculum requirements in science. The additional hours will be included in the total hours required for the degree.

Dental Hygiene Suggested Curricular Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
ENGL 101, 102.....	3	3	DH 101, 212.....	1	1
MATH 108 or 113.....	3	-	DH 207.....	3	-
ZOOL 118.....	4	-	DH 210.....	3	-
SOC 108, PSYC 102.....	3	3	DH 218a,b.....	3	2
CHEM 140a, 140b.....	4	4	DH 206, 220.....	2	3
MICRO 201.....	-	4	DH 226, 247.....	2	3
PSYC 102.....	-	3	DH 318.....	-	4
HCP 241.....	-	4	DH 233.....	-	2
			SPCM 101.....	3	-
<i>Total</i>	17	18	<i>Total</i>	17	15
THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
DH 340, 347.....	2	2	DH 414, 315.....	2	2
DH 320, 355.....	3	3	DH 441, 442.....	3	3
DH 341, 322.....	3	2	DH 348.....	2	-
HCM 365.....	3	-	DH 415, 440.....	2	2
FN 215.....	2	-	University Core.....	3	6
University Core.....	2	6			
<i>Total</i>	15	13	<i>Total</i>	12	13

Courses (DH)

101-1 Orientation to Dental Hygiene. The student will be introduced to the profession of dental hygiene. Emphasis is on history of the profession, patient's bill of rights, careers in dentistry and dental hygiene and professionalism. 16 weeks.

199-1 to 10 Individual Study. Provides first-year students with the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment provides access to the resources of facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Prerequisite: approval of the sponsor, program supervisor, and division chair.

206-2 Oral Anatomy and Tooth Morphology. The student will learn to recognize and identify the structures within the oral cavity. These will include the tongue, salivary glands, lips and cheeks and teeth (both permanent and primary). Laboratory emphasis will be placed on tooth identification and tooth/root morphology to enhance the application of instrumentation techniques. 10 weeks. two hours of lecture weekly. Two hours of lab weekly. Two credit hours. Prerequisite: acceptance into professional sequence or consent of instructor.

207-3 Instrumentation Techniques. Fundamentals of dental hygiene instrumentation and infection control are taught to prepare students for clinical hygiene practice. Laboratory fee \$25. Lecture one hour. Lab four hours. 16 weeks. Prerequisite: acceptance into the professional sequence.

209-3 Dental Hygiene Clinic. The student will perform professional services of a hygienist on designated clinical patients and is expected to demonstrate improvement of skills covered in 137. Additional skill incorporated into clinical procedures include application of fluoride gels, maintenance and sharpening of scaling instruments, recognition and detection of carious lesions, extended or home care education, auxiliary polishing devices, caries etiology tests, and nutritional counseling. Laboratory 12 hours, eight weeks. Laboratory fee: \$50. Prerequisite: 208.

210-3 Patient Assessment Techniques. Assessment theory and techniques are taught to prepare the student to successfully recognize and record normal and abnormal intraoral and extraoral conditions. These assessment skills will be incorporated into treatment planning for individualized patient care. Lecture two hours. Lab two hours. Prerequisite: 101, 207, 226.

212-1 Medical Emergencies in the Dental Office. The student will learn about medical conditions which may affect or alter the provision of oral care. Emphasis is on acquiring and evaluating the medical, dental and drug history. Modification of treatment plans will be discussed. Lecture one hour. 16 weeks. Prerequisite: Microbiology 201.

218A-3 Dental Radiology I. The student is introduced to principles of radiation biology and protection, x-ray production, image formation and intraoral radiographic techniques. Lecture two hours. Laboratory two hours. 16 weeks. Laboratory fee \$25. Prerequisite: acceptance into the Professional Sequence.

218B-2 Dental Radiology II. The student will learn special dental survey techniques including paralleling, occlusal and special views. The student will also identify anatomical landmarks and recognize pathological conditions that appear on dental x-ray image receptors. In the laboratory, the student will receive individual assistance in learning special survey techniques. 16 weeks. two credit hours. Prerequisite: 218a.

220-2 Dental Hygiene Clinic I. The student will apply knowledge and utilize techniques learned in various dental hygiene courses in order to assess oral health status, plan and implement treatment, and evaluate outcomes related to improved oral health. The student will provide preventive, therapeutic and educational services to clinical patients for prevention of oral disease. Laboratory fee \$50. Clinic six hours. 16 weeks. Prerequisite: 101, 207, 212 or concurrent enrollment in 212.

226-2 Anatomy of the Head and Neck. The goal of this course is for the dental hygiene student to acquire clinical problem solving skills through a basic understanding of the gross anatomy of the head and neck region of the human body. Through a regional approach to the head and neck, the student will be able to syn-

thesize solutions to clinical problems by understanding the morphological and functional interrelationships of anatomical structures. 16 weeks. two credit hours. Prerequisite: acceptance into the professional sequence.

233-2 Histology and Embryology. The goal of this course is to enable the dental hygiene student to develop a basic understanding of the microscopic structure of the primary and dental tissue groups of the human body. This course also enables the student to relate embryonic development to the normal and abnormal structures of the head and oral cavity. This background will prepare the student to differentiate between normal and abnormal clinical manifestations in subsequent courses. 16 weeks. two credit hours. Prerequisite: acceptance into the professional sequence.

240-2 Dental Pharmacology and Anesthesia. The student will recognize the various types of drugs, their actions and effects on tissues of the body. Special emphasis will be placed on those drugs most commonly prescribed by the dentist. The student will study the anesthetics most commonly used in a dental office and the techniques of administering them. Lecture two hours. Prerequisite: Chemistry 106, Allied Health Careers Specialties 141, Microbiology 201.

247-3 Preventive Oral Care. The student will prepare for the role of oral health educator and consumer advocate. The dental hygiene process of assessment, planning, implementation and evaluation is applied for the prevention of oral disease. Laboratory techniques for assessing disease processes will be applied. Lecture two hours. Laboratory two hours. 16 weeks. Prerequisite: 126, 226 and Microbiology 201.

299-1 to 16 Individual Study. Provides students with opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment provides access to the resources of facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Prerequisite: approval of the sponsor, program supervisor, and department chair is required.

315-2 Ethics and Jurisprudence for Dental Hygienists. Ethical, and legal issues related to the practice of dentistry and dental hygiene are studied. Case situations are evaluated to determine appropriate management in accordance with the principles of dental ethics and jurisprudence. Review and interpretation of dental practice acts and licensure requirements are included. Lecture two hours. 16 weeks. Prerequisite: 220

318-4 General and Oral Pathology. The student will learn principles of general pathology in relationship to diseases of the teeth, soft tissues and supporting structures of the oral cavity. Early recognition of abnormal oral conditions is emphasized. Lecture four hours. 16 weeks. Prerequisite: 226 and 233.

319-1 to 15 Occupational Internship. Each student will be assigned to a University approved organization engaged in activities related to the student's academic program and career objectives. The student will perform duties and services as assigned by the preceptor and coordinator. Reports and assignments are required to be completed by the student. Hours and credits to be individually arranged. Mandatory Pass/Fail.

320-3 Dental Hygiene Clinic and Radiology II. The student will utilize previous and concurrent information and skills in the treatment of clinical patients. Instrumentation, patient assessment, prevention, radiology and care of special populations will be stressed. Adjunctive treatment methodologies will be introduced. Laboratory fee \$50. Lecture one hour. Clinic six hours. 16 weeks. Prerequisite: 210, 218, 220, 247, and 318,

322-2 Operative Oral Care and Adjunctive Procedures. This course includes an overview of various materials and procedures used in operative, endodontic, orthodontic and prosthetic dentistry. Emphasis is placed on the role of dental hygienists in explaining these procedures to clients/patients and in adapting dental hygiene services. Adjunctive procedures which augment operative care are taught in laboratory. Lecture two hours. Lab two hours. 16 weeks. Prerequisite: 320.

340-2 Dental Pharmacology. This course is designed to teach the student about different drugs used in dentistry, the biochemical activity of each, appropriate use, interactions with other drugs or systemic conditions and some basic pharmacology terminology. Pharmacotherapeutics will be presented to the dental hygiene student in a meaningful, practical manner. Emphasis will be placed on clinical effects, dosages, adverse effects and contraindications of drugs commonly prescribed in dentistry or which patients may be taking under direction of other health care providers or under self-direction. Information will be presented from a perspective to include pharmacological basis for drugs, the need for and use of a medical history, legal aspects related to these subjects. The course format is lecture, two hours weekly over sixteen weeks. 2 credit hours. Prerequisite: Chemistry 140a,b, Allied Health Careers Specialties 141.

341-3 Periodontics. The student will be introduced to identification, treatment and prevention of pathological conditions that affect the periodontium. Emphasis will be placed on anatomy and histology of the periodontium, current advances in periodontics and soft tissue management. Lecture two and one-half hours. Laboratory one hour. 16 weeks. Prerequisite: 226 and 233.

347-2 Community Oral History. The student is introduced to the general principles of dental public health, community dentistry and epidemiology. Also presented is an overview of current community based oral health programs and roles of a community based dental hygienist. Lecture two hours. 16 weeks. Prerequisite: 247, Sociology 108, Health Care Management 365 or concurrent enrollment.

348-2 Community Oral Health Practicum. Principles of community oral health are applied through practical experience. Programming phases of assessment, planning, implementation and evaluation are studied in detail. The student will develop and present dental health education programs according to these principles. Lecture one hour. Practicum two hours. 16 weeks. Prerequisite: 347 and Speech Communication 101

350-1 to 32 Technical Career Subjects. In-depth competency and skill development and exploration of innovative techniques and procedures used in business, industry, professions, and health service occupations offered through various workshops, special short courses, and seminars. Hours and credit to be individually arranged. This course may be classified as independent study. Prerequisite: consent of instructor.

355-3 Dental Hygiene Clinic and Radiology III. The student will provide comprehensive individualized treatment using all aspects of dental hygiene care in the clinical setting. Emphasis is on mastery of skills and techniques previously introduced. Laboratory fee \$75. Lecture one hour. Clinic six hours. 16 weeks. Prerequisite: 320 and 341.

388-2 Career Options in Dental Health. The course presents an overview of the various career options available in the field of dentistry. Advanced dental hygiene clinical practice, education, marketing, nursing home and other long term resident facilities are possible career options to be examined. The student will select and participate in career options of interest. The experiences will correlate to advanced dental hygiene education and will be designed to meet the needs of the individual student and the selected career option. Two hours lecture. Prerequisite: the student must have completed one semester of the dental hygiene associate degree sequence or have consent of the instructor.

414-2 Oral Health Management of Special Populations. Presents a comprehensive approach to the oral care of special needs patients and populations. Student will be introduced to a variety of settings in which dental care and oral health education may be provided. Provides opportunity to plan and implement programs and treatment. Not for graduate credit. 16 weeks. Lecture one hour. Laboratory: two hours seminar.

415-2 Rural Health and Geriatric Internship. The student will utilize preventive, therapeutic and educational measures in combination with principles of public health to provide care to clients in rural health settings and to the geriatric population. Emphasis will be placed on the ability to work with area health care providers in an interdisciplinary approach to meeting oral health care needs of these special populations. Seminar one hour. Field experiences six hours. 16 weeks. Prerequisite: 348, 350, 414 or concurrent

440-2 Interpretation and Review of Dental Literature. This course includes an investigation of various types of sources used for accessing literature related to the practice of dental hygiene. A review of general research principles and statistics is included. Students conduct critical reviews of research articles, utilize various computer searches and write abstracts of published research reports. Lecture two hours, 16 weeks, two credit hours, not for graduate credit. Prerequisite: Health Care Management 365, Dental Hygiene 347 or concurrent enrollment, or consent of faculty.

441-3 Advanced Periodontics and Pain Control. Cotherapy treatment of the complex periodontic patient by the dentist and the dental hygienist will be practiced with development of appropriate therapies for specific case types. Emphasis will be placed on comprehensive evaluation and treatment planning, pain control, adjunctive antibiotic therapy, instrumentation, soft tissue management, evaluation and maintenance. Laboratory fee \$50. Lecture one hour. Clinic six hours. 16 weeks. Not for graduate credit. Prerequisite: 322, 341, 355, or consent of faculty.

442-3 Simulated Clinical Office Practice. The student will utilize skills and knowledge from all courses to provide professional dental hygiene care to clients in a clinical setting that simulates private practice. Emphasis will be placed on efficiency and quality of care to facilitate the transition from practice in the university clinical setting to the private practice setting. Lecture one hour. Clinic eight hours. 16 weeks. Not for graduate credit. Prerequisite: 441 or consent of the faculty.

Dental Technology (Major, Courses)

The dental technology program prepares the student to be a competent dental technician in the commercial laboratory, an educational institution, a dental manufacturing company, or the private dental office. To implement the goal, the prospective student must satisfactorily meet the requirements of courses in both the dental technology area and in the science, business, and humanities area.

Persons interested in careers in dental technology should have a sincere interest in working with their hands and find satisfaction in their creative work.

Enrollment of beginning students is limited by size of faculty and physical facilities with new students admitted only in the fall semester. Admission to the University qualifies the applicant for admission to the Dental Technology program. Students must meet baccalaureate entry requirements.

The program is served by an advisory committee made up of practicing dentists, dental laboratory owners, dental technicians, dental sales representatives, and a second year dental technology student.

Graduates of the two-year dental technology program find that career opportunities are excellent. The trained dental technician not only has a wide choice of geographic location for the pursuit of a career, but can also choose working conditions. Graduates are employed by commercial dental laboratories, dental schools, dental supply companies, private dental offices, or are self-employed in their own dental laboratories.

The student should expect to spend about \$1000 for a dental kit, laboratory jacket, Delta Tau Club, and recognized graduate exam fee over the two-year period.

This associate degree program can be completed in two academic years at Southern Illinois University Carbondale or in combination with community college or other acceptable extra-institutional educational experience.

Associate in Applied Science Degree, College of Applied Sciences and Arts

Requirements for Major in Dental Technology

English 101, Speech Communication 101	6
Physics 101, Chemistry 106	6
Information Management Systems 120	3
Information Management Systems 229	3
Dental Technology 102, 103a,b, 104a,b, 110, 113a,b, 128, 143, 202, 204a,b, 205, 206a,b, 210	61
Total	79

Dental Technology Suggested Curricular Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
DT 102, 110	4.5	4.5	DT 202	4.5	-
DT 103a,b	4.5	4.5	DT 204a,b, DT 206a,b	9	9
DT 104a,b	4.5	4.5	DT 205	1	-
DT 143, 128	1	1	DT 113b	2	-
ENGL 101	3	-	IMS 120, 229	3	3
CHEM 106	3	-	DT 210	-	4.5
DT 113a	-	2	SPCM 101	-	3
PHYS 101	-	3			
Total	20.5	19.5	Total	19.5	19.5

Courses (DT)

102-4.5 Tooth Anatomy. The student will be able to write definitions of the nomenclature of teeth; draw five different peripheral views of maxillary and mandibular teeth; carve maxillary and mandibular teeth in plaster, three times natural size and in wax, natural size; wax maxillary and mandibular teeth on dentoform models. Lecture three hours. Laboratory 17 hours. Five weeks.

103A-4.5 Complete Dentures I. The student will be able to write the steps of denture construction; identify and use lab stone, lab plaster and acrylic resins; construct edentulous casts, custom trays, base plates, occlusal rims, mount casts on non-adjustable articulators; and set up, contour, invest, and process and finish a complete denture. Lecture three hours. Laboratory 17 hours. Five weeks. Prerequisite: 102.

103B-4.5 Complete Dentures II. The student will be able to describe the theory inherent in all phases of full denture construction; bead and box an impression, set up anatomical, semi-anatomical, and non-anatomical teeth on non-adjustable and semi-adjustable articulators; select and set up teeth for different classes of arch forms; contour, flask, process, and finish complete dentures; relines, rebase, and repair full dentures; set up and process an immediate denture and fabricate a surgical tray. Lecture three hours. Laboratory 17 hours. Five weeks. Prerequisite: 103a.

104A-4.5 Removable Partial Dentures I. The student will be able to write the basic steps of partial denture construction, identify and use impression materials, gypsum products, surveyors, dental waxes, clasp designs, and partial denture alloys; mount master casts, survey, design, and cast frameworks. Lecture three hours. Laboratory 17 hours. Five weeks. Prerequisite: 102.

104B-4.5 Removable Partial Dentures II. The student will be able to describe and do the planning, designing, and surveying of partial dentures; construct refractory casts, wax, invest, and finish several partial denture frameworks; articulate, set up denture teeth on partial frameworks, wax, invest, process, and finish acrylic bases; and repair broken frameworks. Lecture three hours. Laboratory 17 hours. Prerequisite: 104a.

110-4.5 Dental Occlusion. The student will be able to write and identify the basic anatomy of the oral facial structure, and the theory inherent to occlusion. The theory will include the physiology of occlusion, the determinants of occlusion, and popular occlusion theories and techniques. The laboratory aspect will include building wax occlusions such as cusp/marginal ridge and cusp/fossa occlusal contacts, including waxing of natural dentition. Lecture three hours. Laboratory 17 hours. Five weeks. Prerequisite: 103b, 104b.

113A-2 Science of Dental Materials. The student will be able to: identify orally, as well as written, the physical and mechanical properties of dental materials, the uses and composition of dental gypsum products, namely, plaster, stones, and investments; impression materials, dental resins, dental cements, and pit and fissure sealants. Lecture two hours.

113B-2 Science of Dental Materials. The student will be able to identify orally, as well as written, the physical and mechanical properties of metals and alloys, namely, dental golds, chrome cobalt and nickel cobalt alloys; the control of their physical properties, namely, strain hardening, alloying and heat treatment, the chemistry of tarnish and corrosion, dental waxes, casting and soldering techniques, dental porcelains and polishing agents and abrasives. Lecture two hours.

128-1 Oral Anatomy. The student will be able to identify the anatomical features of the head and oral cavity; identify the blood and nerve supply to the oral cavity and surrounding area; be able to list the muscles of mastication, and know the origin and insertion of each muscle; identify the anatomical parts of the maxilla and mandible; differentiate the movements of the mandible; and be able to identify the temporomandibular articulations. Lecture one hour.

143-1 Orientation to Dental Technology. The student will be able to identify pertinent dates and contributions made by people in the history of dentistry and the dental laboratory industry; identify specialties of dentistry and dental technology; identify organizations affiliated with the dental laboratory industry; identify ethics and laws regulating the dental profession; identify laboratory safety procedures, equipment maintenance, infection control, areas of possible cross contamination in the dental laboratory, and identify current issues impacting dentistry.

199-1 to 10 Individual Study. Provides first-year students with the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment provides access to the resources of facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Prerequisite: approval of the sponsor, program supervisor, and department.

202-4.5 Orthodontics and Pedodontics. The student will be able to pour and trim orthodontic models, fabricate a maxillary Hawley, mandibular Hawley, holding arch, space maintainer, arch expander, tongue thrust and thumb habit appliances, occlusal palatal splint, biteplanes, operate welding machine, orthodontic model trimmer, orthodontic blowpipe, write the gauges of wire that are used for the orthodontic appliances, identify the functional appliances and their clinical applications, and write the theory associated with the use of the appliance. Lecture three hours. Laboratory 17 hours. Five weeks. Prerequisite: 110.

204A-4.5 Crown and Bridge I. The student will be able to write definitions of the nomenclature for crown and bridge I prosthetics; communicate orally and in writing the theory necessary for successful completion of the laboratory projects; construct working models, full cast crowns, inlays and veneer crowns. Lecture three hours. Laboratory 17 hours. Five weeks. Prerequisite: 202.

204B-4.5 Crown and Bridge II. The student will be able to write definitions of the nomenclature for crown and bridge II prosthetics; communicate orally and in writing the theory necessary for completion of the laboratory projects; construct working models, multiple unit bridgework, broken stress bridgework, crown under an existing partial denture, opposing crowns, and soldering procedures. Lecture three hours. Laboratory 17 hours. Five weeks. Prerequisite: 204a.

205-1 Dental Laboratory Management. The student will be able to identify how the following areas of management relate to the dental laboratory technician and the dental laboratory industry: principles and practices of management, marketing management, financial management, human resource management, and production management.

206A-4.5 Dental Ceramics I. The student will be able to construct porcelain jackets and porcelain-to-ceramic alloy restorations. Included will be cast preparation, waxing for porcelain bonded to ceramic alloy, casting, finishing, and porcelain firing techniques. Related theoretical concepts will be presented. The correct use and function of finishing and casting equipment and porcelain furnaces will be included. Lecture three hours. Laboratory 17 hours. Five weeks. Prerequisite: 202.

206B-4.5 Dental Ceramics II. The student will be able to construct porcelain bonded to ceramic alloy restorations. Included will be veneer and full coverage porcelain restorations and bridges using modern methods and techniques. Fabrication of porcelain laminates will be included. Also, the theory involved in conventional and new techniques for porcelain-to-metal restorations will be included as well as color control, and staining procedures. Lecture three hours. Laboratory 17 hours. Five weeks. Prerequisite: 206a.

210-4.5 Applied Prosthodontics. The student will be able to complete removable prosthodontic cases per directions of the dentist's prescription. Emphasis is on fabricating removable dental prosthesis on practical laboratory models. Laboratory 20 hours. Five weeks. Prerequisite: all 100 and 200 level dental technology courses.

299-1 to 16 Individual Study. Provides students with the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment provides access to the resources of facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Prerequisite: approval of the sponsor, program supervisor, and department chair is required.

319-1 to 15 Occupational Internship. Each student will be assigned to a University approved organization engaged in activities related to the student's academic program and career objectives. The student will perform duties and services as assigned by the preceptor and coordinator. Reports and assignments are required to be completed by the student. Hours and credits to be individually arranged. Mandatory Pass/Fail.

350-1 to 32 Technical Career Subjects. In-depth competency and skill development and exploration of innovative techniques and procedures used in business, industry, professions, and health service occupations offered through various workshops, special short courses, and seminars. Hours and credit to be individually arranged. This course may be classified as independent study. Prerequisite: consent of instructor.

Design

(SEE ART AND DESIGN)

Early Childhood

(SEE CURRICULUM AND INSTRUCTION)

East Asian Civilization

(SEE FOREIGN LANGUAGES AND LITERATURES)

Economics (Department, Major, Courses)

The study of economics provides a useful means of analyzing the behavior of consumers, businesses and government so that the student can better understand many of the problems facing contemporary society. Majoring in economics gives the student an analytical ability and flexibility that is attractive to a wide range of employers in both business and government. Economics is also an excellent major for students who are considering graduate school in law, business, or any of the social sciences.

The economics major in the College of Liberal Arts provides a flexible program with 32 hours of electives. This flexibility allows the student to follow a program oriented toward a wide range of careers in government and business or to prepare for graduate study in any of several areas.

Economic courses at the 300 level generally require only a limited background in introductory economics, while many economics courses at the 400 level require Economics 340 (440) and 341 (441) as prerequisites. Students considering graduate study in economics should also plan to take Economics 340 and 341 as early in their college careers as possible and should choose several courses at the 400 level to complete their major requirements. A student considering graduate study in economics should plan to take Mathematics 250 and Economics 465.

For transfer students, equivalent economics courses will be accepted from other institutions. However, to complete a major in economics, a student must earn credit in no fewer than five economics courses taken at Southern Illinois University Carbondale. To complete a minor in economics, a student must earn credit in no fewer than three economics courses taken at Southern Illinois University Carbondale.

Students are urged to discuss their major programs with the director of undergraduate studies or with any other professor in the Department of Economics; the department also has a director of career information and placement available for consultation.

Courses where a Pass/Fail grade is earned will not be counted as fulfilling the requirements for a major in economics without the written consent of the director of undergraduate studies.

Bachelor of Arts Degree, College of Liberal Arts

University Core Curriculum Requirements	41
College of Liberal Arts Academic Requirements (See Chapter 4)	14
Requirements for Major in Economics	33
Economics 240, 241, 308, 340, 341, 400, 408	21
Any four remaining courses except Economics 113 and 301	12
Electives	<u>32</u>
Total	120

Honors Program

Students who are economics majors and working toward a Bachelor of Arts degree in the College of Liberal Arts may choose to enter the Honors Program if they have a minimum cumulative grade point average of 3.0 in all prior courses in economics.

As part of the ten economics courses required for a major, students in the honors program will be required to take 443 and any two other 400-level economics courses, except 408, 440, 441, and 479.

In order to be granted departmental honors, a student must have attained at graduation a minimum cumulative grade point average of 3.0 in economics courses taken.

Minor

For students majoring in other departments, a minor in economics is useful for employment in business or government and for graduate work in any of the social sci-

ences, law, or business. The minor requires 15 hours of work in economics including Economics 240 and 241, but excluding Economics 113 and 301. A minimum grade point average of 2.0 must be achieved in the 15 hours of economics courses counted toward the minor. Students are urged to discuss their minor program with an economics adviser in order to assist students in designing coherent programs to meet their individual needs.

Economics Suggested Curricular Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
English 101,102.....	3	3	Core Speech Communication.....	3	-
Core Science.....	3	3	Core Multicultural.....	3	-
Core Mathematics.....	3	-	Core Interdisciplinary.....	3	-
Core Humanities.....	3	3	Foreign Language.....	4	4
Core Social Science.....	3	3	Science with Lab, Elective.....	3	3
Core Fine Arts.....	-	3	Economics.....	-	3
			English Composition.....	-	3
			Health.....	-	2
<i>Total</i>	15	15	<i>Total</i>	16	15
THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
ECON 241.....	3	-	ECON XXX.....	6	-
ECON 308,408.....	3	3	ECON 400.....	-	3
ECON 340,341.....	3	3	Electives.....	9	12
ECON XXX.....	-	6			
Electives.....	6	3			
<i>Total</i>	15	15	<i>Total</i>	15	15

Courses (ECON)

113-3 Economics of Contemporary Social Issues. (University Core Curriculum) An examination of the basic economic problems confronting United States society and the world today. The analysis is undertaken utilizing fundamental economic concepts with emphasis on alternative economic policies. Topics as diverse as health care, the national debt, crime, pollution and international trade are addressed.

240-3 Introduction to Microeconomics. [IAI Course: S3 902] Study of businesses, consumers, and the government and their effects on prices, output and income distribution. Current economic problems will be used as illustrative examples. Prerequisite: satisfaction of the University Core Curriculum mathematics requirement.

241-3 Introduction to Macroeconomics. [IAI Course: S3 901] Determination of income, employment, output and price levels in the national economy; government taxation, expenditure, and monetary policies to solve problems such as inflation and unemployment. Prerequisite: satisfaction of the University Core Curriculum mathematics requirement.

301-1 to 6 Economic Readings. Readings in books and periodicals in a defined field, under direction of one or more faculty members. Periodic written and oral reports. Prerequisite: consent of instructor and department chair.

302I-3 History and Philosophy of the World's Economic Systems. (University Core Curriculum) An investigation into how economic systems coexist with, and determine, or are determined by, the political and social structures in internationally diverse countries. Utilizing both economic concepts and an institutional approach the evolution of systems in nations such as Russia, Japan, the United States, China and others will be explored.

303-3 Poverty and the Economy. Poverty as a study of income inequality. Economic determinants of income inequality are isolated and related to current policy proposals.

308-3 Economics and Business Statistics. Survey of the foundations and applications of the principal statistical methods used in economic and business decision making. Included are probability theory, probability distributions, and testing hypothesis about, and estimation of, the important types of population parameters.

310-3 Labor Problems. A comprehensive overview of the relation of labor to the United States economy. Included are the history of labor in the United States; analysis of institutions affecting labor; the theory of wage and employment determination; as well as analyses of unions and collective bargaining, discrimination, unemployment, and the distribution of income. Prerequisite: 240 or consent of instructor.

315-3 Money and Banking I. Study of the operation of the money and banking system in the United States. Stresses Federal Reserve control of the money supply and credit conditions to combat inflation and unemployment. Monetary arrangements and problems among nations are also considered. Prerequisite: 241 or consent of instructor.

322-3 Introduction to Economic Development. An analysis of the preconditions, processes, and problems involved in economic development. Both the theory and policy relevant to development, with special emphasis on the developing or emerging economies, are stressed. Prerequisite: 240 and 241 or consent of instructor.

329-3 Introduction to International Economics. Introduction to the principles of international economics. Stresses the relationship between the balance of payments and the United States economy, the determinants of deficits and surpluses, and policy options to correct an imbalance. Prerequisite: 240 and 241 or consent of instructor.

330-3 Public Finance. Effects of government spending and taxing activities on the rest of the economy. Analysis of government debt, the federal budgetary process, and various taxes used in the United States. Prerequisite: 240 or consent of instructor.

333-3 Economics of the Environment. Factors which lead to physical and human deterioration in a market economy. Consideration of solutions to such problems as urban decay, overpopulation, and pollution. Prerequisite: 240, 241 or consent of instructor.

334-3 Health Economics. Factors underlying the demand for and supply of health and medical care services. Included are the market, voluntary nonprofit, and governmental sectors of the industry. Special topics are the regional coordination of hospital facilities and services, the consumer price index and the measurement and costs of control programs.

340-3 Intermediate Microeconomics. A survey of theories of household, firm, and government economic behavior in the determination of competitive and non-competitive market prices. Emphasis is on understanding the United States economic system and on evaluating existing and proposed government microeconomic policies designed to improve the system. Not open to students who have had Economics 440. Prerequisite: 240 or consent of instructor.

341-3 Intermediate Macroeconomics. The determinants of fluctuations in aggregate economic activity, unemployment and inflation. An analysis of the behavior of consumption and investment, the impact of government monetary and fiscal policies, and factors affecting the rate of economic growth. Not open to students who have had Economics 441. Prerequisite: 241 or consent of instructor.

361-3 Regional and Urban Economics. A survey of regional and urban economic growth and the associated problems, including disparities among regions in income and employment. Examination of governmental policies aimed at reducing or eliminating such problems as depressed areas and urban blight. Prerequisite: 240 or 241, or consent of instructor.

374-3 Industrial Organization. A survey of economic theories and empirical studies on the nature and consequences of business rivalry in imperfectly competitive markets. Includes such topics as oligopoly, economics of scale, natural monopoly, introductory game theory, advertising, imperfect information, spatial competition, patents, and innovation. Prerequisite: 240.

400-3 Contemporary Economic Problems. A study of one or more contemporary economic problems. Problems chosen vary from semester to semester. Topics will be announced in advance. This course satisfies the CoLA WAC requirement. Not for graduate credit. Prerequisite: senior status and economics major.

408-3 Economics and Business Statistics II. A continuation of 308 which includes the construction, interpretation, and use of economic data. Topics include correlation, regression, decisionmaking, index numbers, time series analysis, forecasting, and other statistical techniques used in analyzing economic and business data. This course will not count as graduate credit for economics majors. Prerequisite: 308 or equivalent.

416-3 Money and Banking II. An examination of the principal institutions whose joint actions determine the supply of money in the United States economy. Emphasis is placed on the commercial bank operating as a firm within the Federal Reserve System. Policy issues are examined for the regulation of the banking industry as well as for the control of the domestic money supply. Prerequisite: 315, or 340, or 341, or consent of instructor.

419-3 Latin American Economic Development. Special attention to contemporary policy issues and alternative strategies for development. Among the topics included are inflation and financial reform, international trade and economic integration, foreign investment, and agrarian reform. Prerequisite: 322, or 340, or 341, or consent of instructor.

420-3 The History of American Growth in the 20th Century. An analytical survey of American growth in the present century. Concentrates on problems associated with the United States' role as a world economic power and changes in economic institutions engendered by rapid technological change and the need to cope with such problems as income distribution, equity, the growing public sector, inflation, unemployment, and others. Prerequisite: 340, or 341, or consent of instructor.

429-3 International Trade and Finance. Analysis of the pattern and volume of world trade and capital flows; effects of trade and payments on the domestic economy; problems and methods of adjusting to change in the balance of payments. Prerequisite: 340 and 341 or consent of instructor; and Mathematics 140 or 150, or consent of instructor.

431-3 Public Finance II. State and local. Analysis of the economic effects, problems, and alternative solutions concerning state and local government expenditures, revenues, and debt. Prerequisite: 330 or 340 or 341 or consent of instructor.

436-3 Government and Labor. Influence of government and law on collective bargaining, on the internal operation of unions, and on job discrimination in the public and private sectors. Prerequisite: Political Science 114 and Economics 113 or equivalents or consent of instructor.

440-3 Price, Output, and Allocation Theories. A systematic survey of theories of product prices, wage rates, rates of production and resource utilization under conditions of competition, monopolistic competition, oligopoly and monopoly markets. Emphasis is on developing analytical tools useful in the social sciences. Not open to students who have had Economics 340. Prerequisite: 240 or consent of instructor.

441-3 Contemporary Macroeconomic Theory. An examination in the causes of inflation, unemployment, and fluctuations in aggregate economic activity, factors affecting consumption and investment, and the sources of economic growth. Emphasis is on understanding contemporary United States macroeconomic problems and the options for fiscal, monetary and income policies facing the United States government. Not open to students who have had 341. Prerequisite: 241 or consent of instructor.

443-3 Honors Seminar in Economics. Application of the tools of economic analysis to the study of contemporary social problems. Enrollment limited to economic majors who have a minimum cumulative grade point

average of 3.0 or higher in all prior economics courses. Economics graduate students are not permitted to enroll in this course. Prerequisite: 340 and 341; and Mathematics 140 or 150, or consent of instructor.

450-3 History of Economic Thought. An analytical study of the development of economic ideas, with special reference to historical and societal context, central thrust, and impact. Such benchmark figures as Smith, Marx, Marshall, Veblen, and Keynes are highlighted and major schools of economic thought are identified. Prerequisite: 240 and 241; or 113; or consent of instructor.

463-3 Introduction to Applied Econometrics. Applications of statistical tools to specific economic problems. Numerous examples will be examined in order to achieve this goal. Emphasis will be given to model misspecification, non-classical estimation techniques, data analysis, and simultaneous equations. Prerequisite: 408 or consent of instructor.

465-4 Mathematical Economics I. A systematic survey of mathematical economics. Application of basic mathematical tools to economic analysis, and a restatement of economic theory in mathematical terms. Prerequisite: 340 or 440, and Mathematics 140 or consent of instructor.

474-3 Antitrust and Regulation. The theory and practice of government policy toward imperfectly competitive markets. Includes such topics as merger policy, unfair trade practices, regulation of natural monopolies, peak load pricing, safety and environmental regulation, and consumer protection. Prerequisite: 340 or 374.

479-3 Problems in Business and Economics. Application of economic theory and tools of analysis to practical business problems. Cost and demand functions, and forecasting are analyzed from a policy standpoint. Prerequisite: 240; 308 or Management 208; Marketing 304; Mathematics 140 or 150 or consent of instructor.

Economics Faculty

Chau, Ho Yan, Assistant Professor, Ph.D., The John Hopkins University, 1995.

Dibooglu, Selahattin, Assistant Professor, Ph.D., Iowa State University, 1993.

Edelman, Milton T., Professor, *Emeritus*, Ph.D., University of Illinois, 1951.

Ellis, Robert J., Jr., Associate Professor, *Emeritus*, Ph.D., University of Virginia, 1966.

Fare, Rolf, Professor, Docent., University of Lund, 1976.

Foran, Terry G., Associate Professor, Ph.D., Pennsylvania State University, 1971.

Grabowski, Richard, Professor, Ph.D., University of Utah, 1977.

Grosskopf, Shawna, Professor, Ph.D., Syracuse University, 1977.

Laumas, G. S., Professor, Ph.D., Wayne State University, 1966.

Layer, Robert G., Professor, *Emeritus*, Ph.D., Harvard University, 1952.

Mitchell, Thomas, Associate Professor, Ph.D., Brown University, 1983.

Myers, John G., Professor, *Emeritus*, Ph.D., Columbia University, 1961.

Primont, Daniel A., Professor and *Chair*, Ph.D., University of California at Santa Barbara, 1970.

Sharma, C. Subhash, Professor, Ph.D., University of Kentucky, 1983.

Sylwester, Kevin, Assistant Professor, Ph.D., University of Wisconsin-Madison, 1997.

Trescott, Paul B., Professor, *Emeritus*, Ph.D., Princeton University, 1954.

Zemcik, Petr, Assistant Professor, Ph.D., University of Pittsburgh, 1997.

Education (College, Courses)

Courses (EDUC)

100-1 Academic and Personal Success Skills. Allows students to investigate university resources available to assist with the completion of their degree programs. Helps to prepare students for their future academic endeavors. Course limited to College of Education students on academic probation.

258-1 to 4 Credit for Work Experience. Credit granted for prior work experience relevant to the student's major program in which specific experiences with children or youth can be documented. Prerequisite: 310, 315, and consent of coordinator of professional education experiences.

259-1 to 60 Occupational Education Credit. Credit for educational experiences in training schools and institutes relevant to the particular departmental program. Credit hours to be determined by the associate dean for undergraduate studies.

300-1 to 10 Experimental Education. Offered for purposes of testing new and experimental courses and series of courses within the College of Education. Prerequisite: consent of instructor.

308-3 Characteristics and Methods for Teaching Exceptional Children. [IAI Course: SED 904, ECE 913] For preservice teachers and school personnel who serve directly and indirectly handicapped children and youth. The course focuses on providing the essential characteristic information and skills to appropriately educate the handicapped in a variety of settings. Prerequisite: 310, 314.

310-1 to 2 Introduction to Reflective Teaching Practice. Requirement in professional education sequence which cannot be waived. Introduction to major roles assumed by classroom teachers. Orientation to the Teacher Education Program Reflective Teaching Model and to the teaching profession. During the semester, there are four class meetings, lasting two hours each, scheduled to be held on-campus. Participation and observation in public schools two one-half days per week or one full day per week on Tuesdays, Wednesdays or Thursdays. Placement in public school settings coordinated by College of Education Student Services. Students who have completed thirty-six clock hours of observation/participation in an approved course prior to enrollment in 310 may enroll for one semester hour. All sections of 310 require a restricted class card which

may be obtained in Wham 135. Seventy-two clock hours. Prerequisite: admission to the Teacher Education Program.

311-2 School and Society: Historical, Sociological, and Philosophical Perspectives. [IAI Course: EED 901, SED 901] A requirement in the professional education sequence. Fulfills the minimum state certification requirement in the history and philosophy of education. Assists students in developing an understanding of the organization, function, and role of schools in the United States.

312-1 to 8 Field Observation and Participation. [IAI Course: EED 904, SED 905] Allows the pre-service teacher education student to observe and participate in activities and experiences relating to the offerings of their major department. These experiences will be correlated with the offerings of the student's major department, and the experiences will be designed to meet the needs of the individual student. Enrollment in this course will be coordinated by the student's major department. Placement in public school settings will be coordinated by the College of Education Student Services. Prerequisite: 310, 311, 314 and 315 or concurrent enrollment.

314-2 Human Growth, Development, and Learning. A requirement in the professional education sequence. This course deals with factors involved in the teaching-learning process including cognitive development, socio-personal characteristics, socio-cultural characteristics, motivation for learning, and principles of school learning. Prerequisite: Psychology 102 or equivalent.

315-3 Organizing and Directing Instruction. A requirement in the professional education sequence. Techniques and procedures applicable to effective teaching including planning for instruction, instructional design, and general teaching strategies. Teaching skills will be demonstrated by the students and evaluated by the instructor on a regular basis in the Teaching Skills Lab. 12 lab hours. Laboratory work also required in media production laboratory and microcomputer laboratory. A \$10 laboratory fee is required. Prerequisite: 310 or concurrent enrollment, 314 and admission to the Teacher Education Program.

316-2 Classroom Management and Discipline. Includes techniques and procedures intended to provide teachers with skills for managing groups of students. Content includes management techniques, discipline models, child abuse identification and reporting, field observation, and data collection in the public schools. Public school assignments are one-half day per week on Tuesdays, Wednesdays, or Thursdays for ten weeks beginning with week five. Placement in public schools is coordinated by the College of Education Student Services. All sections require restricted class cards. Thirty clock hours. Prerequisite: 310, 314 and admission to the Teacher Education Program.

317-2 Evaluation of Learning and Teaching. Covers construction and use of teacher-made tests of classroom learning; interpretation and use of standardized tests of achievement, aptitude, and scholastic ability; procedures for determining and reporting grades; and procedures for measuring and evaluating instructional effectiveness. Prerequisite: 310, 314, 315, admission to the Teacher Education Program.

400-1 to 4 Student Teaching. A requirement in the undergraduate professional education sequence, 400 represents preliminary student teaching experiences necessary for certification by entitlement. For undergraduate students who are majoring in special education and are seeking entitlement to more than one teaching certification in the state of Illinois. Enrollment in this course must be arranged through the College of Education Student Services. For undergraduate credit only. Prerequisite: admission to the Teacher Education Program, acceptance for student teaching, and concurrent enrollment in 312.

401-1 to 12 Student Teaching. A requirement in the undergraduate professional education sequence, 401 concludes the student teaching experience necessary for certification by entitlement. For undergraduate credit only. Prerequisite: admission to the Teacher Education Program and acceptance for student teaching.

402-5 to 8 Student Teaching for Provisionally Certified Teachers. Offered for purposes of converting a provisional teaching certificate to a standard teaching certificate. The student teaching experience may be provided for in the position of employment, without pay, under the supervision of a university supervisor. Enrollment in this course must be arranged with the coordinator of professional education experiences in the College of Education Student Services. Prerequisite: consent of instructor, provisional certificate, and teaching experience. For undergraduate credit only.

450-1 to 10 Experimental Education. Offered for purposes of testing new and experimental courses and series of courses within the College of Education. Prerequisite: consent of instructor.

Educational Psychology (Major, [Graduate only], Courses)

Courses (EPSY)

100-2 Decision Making for Career Development. Examination of factors relating to career decision making. Emphasis on the continuous use of learned processes and information in vocational development. Supplementary group guidance and counseling sessions required. Charges may be assessed to cover the cost of administering and scoring occupational interest surveys to be given during the course. These charges should be less than \$10.

307-3 Educational Psychology. The basic factors involved in the teaching-learning process including student characteristics, motivation, learning, and teacher-student relationships. The course activities are intended to prepare the student with a basic foundation in educational psychology for the purpose of teaching.

380-1 to 4 Practicum in Instructional Roles. One semester hour of credit for every three modules selected. Application of educational psychology in a practical teacher-learner situation. Class members conduct actual instructional activities with individuals or groups of students. Field activities are required and the student

may be required to purchase additional materials not to exceed \$20. Prerequisite: consent of instructor.

402-3 Basic Statistics. A master's level terminal statistics course. Emphasis on descriptive statistics, graphical representation of data, correlation, and simple regression. Includes an introduction to hypothesis testing procedures and analysis of variance.

412-3 Human Behavior and Mental Health. This course is designed to provide an overview of the factors and conditions in life that tend to affect mental health and the community resources available to address mental health needs. Social, political, economic and professional resources will be examined as they relate to the development, implementation and coordination of mental health services and systems.

418-3 Psychology of the Classroom. Intended to develop interpersonal skills such as values clarification, empathy, and listening. Strategies for the resolution of conflicts and reasons for students demonstrating disruptive behavior will be discussed. Role-playing, group processes, concepts and activities in behavior modification, and activities related to concepts of discipline will be examined. Content should be suited to parents, teachers, and other professionals.

422-3 Introduction to Individual and Group Assessment. The student will be introduced to the basic testing process and the problems related to individual group assessment and will be expected to choose a project for study and investigation. The project must be related in some way to the role and function of the counselor in different settings. The various types of assessment instruments and the manner in which the data derived therefrom can be employed in consultation.

442-3 Introduction to Community Counseling. To provide an introduction to the foundations, contextual dimensions and program development of community counseling. Prerequisite: graduate standing.

481-1 to 12 Seminar. Conducted by staff members and distinguished guest lecturers on pertinent topics. Prerequisite: consent of instructor and department.

482-1 to 3 Seminar in Marriage and Family Counseling. Seminar will focus on current clinical and research topics in the field of marriage and family counseling and the general issues that emerge from the marriage and family counseling practicum. Prerequisite: 494a or b, 490, concurrent enrollment in 494E and permission of instructor.

490-3 Introduction to Marriage and Family Counseling. Problems and techniques of premarital, marital, divorce, family and family crisis counseling. Counseling individuals singly, in family units and in groups. Prerequisite: 538.

491-1 to 6 Special Research Problem—Individual Study. For majors. Formulating, investigating, and reporting on a problem in the area of applied psychology. Prerequisite: advanced standing and consent of department.

493-3 Counseling Skill Development. Through simulated counseling situations and extensive examination of counseling case studies, counseling skills are examined and practiced.

494A-3 School Counseling Practicum. A combined seminar, laboratory, and field experience representing the central focus of the program in school counseling. Enables the student to practice the role of the counselor under close supervision. Graded *S/U* only. Prerequisite: 493, 538 and admitted to counseling program.

494B-3 Counseling Practicum. Practice of counseling skills with different populations in varied settings. The professional setting depends on the student's interest area. Individual and group supervision are provided. Use of tape recorder is required. Graded *S/U* only. Prerequisite: 493, 538 and admitted to counseling program.

494C-3 Career Group Practicum. Supervised in the creation and maintenance of small group process for the purpose of career development. Application of theoretical models is stressed concurrently with entry level skills in the facilitation of small groups and career counseling. Graded *S/U* only. Prerequisite: 542, 543 and admitted to counseling program.

494E-1 to 6 Practicum in Marriage and Family Counseling. Supervised on-campus counseling experience with couples and families. Supervision will be individual as well as within the context of a therapy team. Graded *S/U* only. Prerequisite: 493, 494a or b, 490, concurrent enrollment in 482 and consent of instructor.

Electrical Engineering (Department, Major, Courses)

The Department of Electrical Engineering offers courses in the areas of electrical and computer engineering. The Department offers a Bachelor of Science in Electrical Engineering and a Bachelor of Science in Electrical Engineering with specialization in Computer Engineering. Students who choose electrical engineering prepare themselves for professional and technical employment or graduate studies leading to advanced degrees. Employment opportunities exist within a wide range of organizations, such as governmental laboratories; consumer goods manufacturers; and telecommunications, electric power, computer and microelectronic companies. Flexibility in this major allows students to choose among courses in applications and theory of circuits, communications, digital systems, controls, electronics, instrumentation, electromagnetics and power systems. Students may choose the Electrical Engineering degree with a specialization in Computer Engineering.

The program in electrical engineering is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology.

Bachelor of Science Degree, College of Engineering

ELECTRICAL ENGINEERING MAJOR

University Core Curriculum Requirements	41 ¹
Requirements for Major in Electrical Engineering	(9) + 84
Basic sciences	9
Physics 205a, 205b, 255a, 255b	(3) + 5
Chemistry 200, 201, 210	(3) + 4
Mathematics	14
Mathematics 150, 250, 251, 305	(3) + 11
Approved Mathematics elective	3
General Engineering	4
Mechanical Engineering 361 and one approved Engineering Science elective.	
Required Electrical Engineering courses	41
Electrical Engineering 101, 222, 225, 235, 327, 336, 345, 351, 355, 375, 385, 465, 495 (Capstone design course)	
Approved Electives	16
The approved electives must include at least 6 hours of Engineering Design and at least 4 hours of Engineering Science.	
Electives	3
Total	128

Electrical Engineering Suggested Curricular Guide

FIRST YEAR		FALL	SPRING	SECOND YEAR		FALL	SPRING
MATH 150, 250	4	4		MATH 251, 305	3	3	
CHEM 200, 201	4	-		PHYS 205a,b	3	3	
CHEM 210	-	3		PHYS 255a,b	1	1	
ENGL 101, 102	3	3		SPCM 101	3	-	
EE 222	-	3		EE 225, 235	3	4	
Fine Art	3	-		Social Science	-	3	
Social Science	-	3		Humanities	3	3	
EE 101	2	-					
Total	16	16		Total	16	17	
THIRD YEAR		FALL	SPRING	FOURTH YEAR		FALL	SPRING
EE 336, 375	3	3		MATH Elective	3	-	
EE 345, 355	4	3		Eng. Science Elective	-	3	
EE 351, ME 361	1	1		EE 495a,b	1	3	
EE 327, 465	4	3		Integrative Studies	3	3	
EE 385	4	-		EE Electives	8	4	
EE Electives	-	4		Free Electives	-	3	
Human Health	-	2					
Total	16	16		Total	15	16	

ELECTRICAL ENGINEERING MAJOR – COMPUTER ENGINEERING SPECIALIZATION

University Core Curriculum Requirements	41 ¹
Requirements for Major in Electrical Engineering with a specialization in Computer Engineering	(9) + 84
Basic sciences	9
Physics 205a, 205b, 255a, 255b	(3) + 5
Chemistry 200, 201, 210	(3) + 4
Mathematics	14
Mathematics 150, 250, 251, 305	(3) + 11
Approved Mathematics elective	3
General Engineering	4
Mechanical Engineering 361 and one approved Engineering Science elective.	
Required Electrical Engineering courses	41
Electrical Engineering 101, 222, 225, 235, 327, 336, 345, 351, 355, 375, 385, 465, 495 (Capstone design course)	

Approved Electives 19

The approved electives must include at least 6 hours of Engineering Design and at least 4 hours of Engineering Science to be chosen from the following: Electrical Engineering 421, 424, 425, 427, 428 and approved Computer Science electives.

Total 128

¹Courses in parenthesis required for the major will apply toward 9 hours of University Core Curriculum, making a total of 41.

Electrical Engineering with Computer Engineering Specialization Suggested Curricular Guide

THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
EE 336, 375	3	3	ME 361	1	-
EE 345, 355	4	3	Eng. Science Elective	-	3
EE 327, 427	4	4	EE 495a,b	1	3
EE 351	1	-	Integrative Studies	3	3
EE 465	-	3	Math Elective	3	-
EE 385	4	-	Approved EE/CS Elective	6	6
Approved EE/CS Elect	-	3	Human Health	2	-
Total	16	16	Total	16	15

Courses (EE)

Safety glasses, a hand-held scientific calculator, and textbooks are required of each electrical engineering student.

101-2 Introduction to Electrical Engineering. Concepts and fundamental laws of electrical engineering. Mathematics in modeling and analyzing electric components and systems. Demonstrations of electric and electronic circuits and devices. Applications of computers. Opportunities for electrical engineers in industrial, academic, medical and governmental settings. Mandatory Pass/Fail.

222-3 Introduction to Digital Computation in Electrical Engineering. Digital computation to solve basic problems in electrical engineering. Analyzing problems, flowcharting, coding, diagnosing, executing and verifying solutions. Programming in C language. Prerequisite: Mathematics 111.

225-3 Introduction to Digital Systems. [IAI Course: EGR 932] Number systems. Boolean algebra. Combinatorial circuits; minimization. Sequential circuits. Logic devices. Introduction to switching algebra. Prerequisite: 222.

235-4 Electric Circuits I. [IAI Course: EGR 931] Concepts and basic laws in analysis of AC and DC linear circuits. Mesh and nodal methods, Thevenin's and Norton's theorems, superposition principle, and phasor notation. Transients. Basic instrumentation. Lecture and laboratory. Prerequisite: Mathematics 250.

327-4 Sequential Circuit Design. Introduction to switching algebra, logic gates, description synthesis and organization of asynchronous and a synchronous sequential circuits, flip flops, registers, counters, and memory. Lecture and laboratory. Laboratory fee of \$10 to help defray cost of consumable items. Prerequisite: 225.

336-3 Electric Circuits II. Three phase balanced circuits. Mutual inductance. Series and parallel resonance. Laplace transform and its applications. Transfer function. Two port network. Prerequisite: 235 with a grade of C or better and concurrent enrollment in Mathematics 305.

345-4 Electronics. Fundamental electronics and basic signal-processing. Characteristics and typical applications of analog and digital electronic modules. Operational amplifiers. Fundamentals of transistors. Lecture and laboratory. Laboratory fee of \$10 to help defray cost of consumable items. Prerequisite: 235 with a grade of C or better and concurrent enrollment in 336.

351-1 Introduction to Probabilistic and Statistical Methods in Engineering. Introductory probability. Bayes's theorem. Random variables. Elements of statistics. Applications in engineering. Prerequisite: Mathematics 250.

355-3 Signals and Systems. Concept of continuous and discrete signals and systems. Singularity functions. Differential and difference equations. Convolution. Fourier transform. Z transform. System transfer function. State variables. Stability. Prerequisite: 336 or concurrent enrollment.

375-3 Electromagnetic Fields. Electric and magnetic fields using vector analysis. Maxwell's equations, Laws of Coulomb, Gauss, Ampere, and Faraday. Concepts of energy and potential. Poisson and Laplace fields. Wave equation and plane waves. Prerequisite: Mathematics 251.

385-4 Electromechanical Energy Conversion. Principles of electromagnetic energy conversion and related circuitry. Magnetic circuits. Transformers. DC machines. Single phase and polyphase machines. Polyphase circuits. Lecture and laboratory. Prerequisite: 235 with a grade of C or better and concurrent enrollment in 336.

392-1 to 6 Electrical Engineering Cooperative Education. Supervised work experience in industry, government or in a professional organization. Students work with on-site supervisor and faculty adviser. Reports are required from the student and the employer. Hours do not count toward degree requirements. Mandatory Pass/Fail. Prerequisite: sophomore standing.

421-3 Introduction to Hardware Descriptive Languages. Fundamental concepts, techniques and tools for computer-aided design of simple digital systems. Modeling of digital systems using hardware descriptive

languages, behavioral description and structural description. Realization of the design on FPGA-like chips. Simulation and testing. Prerequisite: 327.

424-4 Design of Microprocessor-Based Systems. Microprocessor terminology. Design, construction, and programming of microprocessor-based systems. Lecture and laboratory. Cost of parts for microprocessor-based system, approximately \$80. Prerequisite: 427 or concurrent enrollment, or consent of instructor.

425-3 Computer-Aided Design of Digital VLSI Systems I. Principles of using CAD tools in designing digital VLSI systems: stick diagrams, design rules, and layout diagrams for CMOS technology. Design and implementation of custom VLSI integrated circuits. Projects. Prerequisite: 336, 345 and 427.

427-4 Structure of Digital Computers. Introduction to structure and design of digital computers: central processing unit, arithmetic unit, memory organization including cache and virtual memory concepts, input and output systems, interrupts, direct memory access, hardwired, and microprogrammed control units. Trends in computers. Lecture and laboratory. Prerequisite: 327.

428-4 Digital Hardware Design. Introduction to theoretical concepts and experimental design and construction of digital systems with a microprocessor as system controller. FPGA (Field Programmable Gate Arrays) or similar logic. Lecture and laboratory. Laboratory fee of \$10 to help defray cost of consumable items. Prerequisite: 427 or consent of instructor.

446-4 Electronic Circuit Design. Analysis and design of electronic circuits, both discrete and integrated. Computer-aided circuit design and analysis. Consideration of wideband, power, and tuned amplifiers; switching circuits; feedback; and oscillators. Design projects. Lecture and laboratory. Laboratory fee of \$10 to defray cost of consumable items. Prerequisite: 336, 345, and 355 or concurrent enrollment.

447-4 Electronic Devices. Physical mechanisms governing the operation of a wide variety of semiconductor devices. Applications of specific devices to illustrate performance characteristics. Device design related to terminal properties. Term paper on design. Lecture and laboratory. Prerequisite: 336 and 345.

448-4 Laser Electronics. Excitation and lasing in various liquid, solid, and gas lasers. Techniques and principles utilized in design of laser system. Lecture and laboratory. Prerequisite: 375.

456-3 Control Theory. Fundamentals and techniques for analysis and design of linear, dynamic systems: Laplace transformation, signal-flow graphs, state variable equations, stability conditions, time-domain analysis, frequency-domain analysis, root-locus method, and controller designs. Prerequisite: 336 and 355.

458-3 Communications Theory. Signal transmission through linear systems. Applications of Fourier transform in communications. Sampling theory. Digital coding of analog sources: pulse code, differential pulse code, and delta modulations. Data transmission through telephone channels. Amplitude and frequency modulations; signal-to-noise ratio. Prerequisite: 336 and 355.

459-3 Digital Control. Analysis and design of linear, discrete-data and digital control systems: Z-transformation, state variable equations, stability criteria, time-domain analysis, frequency-domain analysis, and digital controller designs. Prerequisite: 456 or concurrent enrollment.

462-3 Biomedical Instrumentation. (Same as Physiology 462.) Diagnostic and therapeutic modalities related to engineering. Cardiovascular, neural, sensory and respiratory instrumentation. Prerequisite: consent of instructor.

465-3 Instrumentation. Measurement systems for research and manufacturing. Instrument characteristics. Digital and analog techniques and devices in instrumentation. Transducers. Signal conditioners. Displays. Control devices. Statistics of measurement. Lecture and laboratory. Laboratory fee of \$10 to help defray cost of consumable items. Prerequisite: 336 and 345.

468-3 Digital Signal Processing. Discrete-time signals and systems; sampling; Z-transform; discrete Fourier transform; fast Fourier transform algorithms; digital filter design; digital filter realizations. Prerequisite: 355 and 336.

471-3 Wireless and Personal Communication Systems. Overview of wireless technologies, access technologies and cellular systems. Fundamentals of radio and cellular communications. Digital modulation techniques. Antennas and diversity systems. Concepts of packet radio systems. North American Cellular and PC systems. Not for graduate credit. Prerequisite: 351 and 355.

476-3 Introduction to Broadband Communication Systems. Digital transmission fundamentals. Satellite, microwave, video coding and optical transmission. Prerequisite: 355 and 375.

477-4 Electromagnetic Waves. Transmission-line analysis. Phasor diagrams. Smith chart. General eigen-wave analysis. Guided wave. Plane waves including optical waves. Oblique reflection and transmission. Non-reciprocal wave systems. Design of electromagnetic systems. Lecture and laboratory. Prerequisite: 375 or consent of instructor.

478-3 Digital Communication. Application of probability theory and random processes in digital communication systems. Behavior of digital communication systems in noise. Performance comparisons of digital modulation systems. Optimum signal detection. Entropy and channel coding. Prerequisite: 351 or 355.

479-3 Electromagnetic and Optical Measurements. Fundamental measurement techniques in electromagnetic wave systems and optical systems. Accurate measurements of microwave properties of materials, laser transmission reception, modulations, and holographs. Prerequisite: 375.

483-4 Power Electronics. Power semiconductor devices. Power converters. Solid-state control of electromechanical systems. Lecture and laboratory. Not for graduate credit. Prerequisite: 336, 345, and 385.

484-3 Computer-Aided Circuit Analysis. Network Topology. Nodal analysis of linear and nonlinear networks. Standard form of state equations of linear networks. Numerical solution of state equations. Sensitivity calculations. Prerequisite: 336.

486-3 Electric Energy Sources. Principles and utilization of nuclear, solar, and fossil-fuel generators. Direct energy-converters. Energy-storage devices. Cost of generating power. Prerequisite: 336 and 385, or consent of instructor.

487-4 Power Systems Analysis. Introduction to analysis of electric power systems. Modeling of power system components. Power system configuration. Per-unit quantities. Network analysis applied to power systems. Load flow. Lecture and laboratory. Prerequisite: 385.

488-3 Power Systems Engineering. Economic operation of power systems; symmetrical components; short circuit analysis; stability. Prerequisite: 487.

489-3 Electric Power Distribution. Design of primary and secondary distribution networks. Load characteristics. Voltage regulation. Metering. System protection. Technical and legal requirements in power distribution. Prerequisite: 487.

492-1 to 3 Special Studies in Electrical Engineering. Individual projects and problems selected by student or instructor. Open to seniors only. Not for graduate credit. Prerequisite: consent of instructor.

493-1 to 3 Special Topics in Electrical Engineering. Lectures on topics of special interest to students in various areas of electrical engineering. Designed to test new and experimental courses in electrical engineering. Prerequisite: consent of instructor.

495-4 (1,3) Electrical Engineering Design. (a) Development of preliminary design. Feasibility and cost-benefit analyses. Ethics and professionalism. Organization, identification of tasks, assignment of tasks to team members and coordination. Development of final proposal. Technical writing and oral presentation techniques. Not for graduate credit. Prerequisite: Senior standing in electrical engineering. (b) Development of final design. Scheduling and cost estimating. Documentation of all stages of design. Construction of final design (if project warrants). Evaluation of final design. Written, oral and poster presentation of final design. Not for graduate credit. Prerequisite: 495a.

Electrical Engineering Faculty

Botros, Nazeih, Associate Professor, Ph.D., University of Oklahoma, 1985.

Brown, David P., Professor, Ph.D., Michigan State University, 1961.

Daneshdoost, Morteza, Associate Professor, Ph.D., Drexel University, 1984.

Dhali, Shirshak, Professor, Ph.D., Texas Tech University, 1984.

Feiste, Vernold K., Associate Professor, Ph.D., University of Missouri at Columbia, 1966.

Galanos, Glafkos, Professor and *Chair*, University of Manchester, England, 1970.

Goben, Charles A., Professor, Ph.D., Iowa State University, 1965.

Gupta, Lalit, Associate Professor, Ph.D., Southern Methodist University, 1986.

Harackiewicz, Frances J., Associate Professor, University of Massachusetts at Amherst, 1990.

Hatziadoniu, C., Associate Professor, Ph.D., West Virginia University, 1988.

Hu, C. J., Professor, Ph.D., University of Colorado-Boulder, 1966.

Kagaris, Dimitrios N., Assistant Professor, Ph.D., Dartmouth College, 1994.

Manzoul, Mahmoud, Associate Professor, Ph.D., West Virginia University, 1985.

Margon, Irving, Visiting Assistant Professor, *Emeritus*, M.S., University of Southern California at Los Angeles, 1948.

Pourboghraat, Farzad, Associate Professor, Ph.D., University of Iowa, 1984.

Purcell, Kay, Visiting Instructor, M.S., Southern Illinois University, 1978.

Rawlings, Charles A., Professor, Ph.D., Southern Illinois University, 1974.

Sayeh, Mohammad, Associate Professor, Ph.D., Oklahoma State University, 1985.

Smith, James G., Professor, *Emeritus*, Ph.D., University of Missouri at Rolla, 1967.

Viswanathan, R., Professor, Ph.D., Southern Methodist University, 1983.

Electronics Management (Major, Courses)

The Electronics Management (ELM) major provides an essential foundation in basic electronics and offers a blend of advanced technical and managerial course work for students pursuing careers in the electronics industry. The program allows students the flexibility to choose a curriculum that will compliment their career goals and work experience.

The 120-semester hour ELM curriculum consists of two areas: A 41-semester hour University Core Curriculum and a 79-semester hour major in Electronics Management. The University Core Curriculum provides a foundation for students to be successful in their major and life beyond the university. Students entering the program as freshman are not required to have a background in electronics. Requirements for the major provide a sequential program in electronics and allow students to select classes which lead toward various careers in the electronics industry.

A student in Electronics Management may choose the Electronics Technology Specialization. This specialization allows the student to select advanced technical curricula focused on particular areas within the electronics industry. Graduates with an Electronics Technology Specialization possess the skills required of the technologist entering areas such as biomedical equipment technology, communication technology, industrial electronics, or microcomputer technology.

The ELM program is well suited for individuals possessing an AS or AAS degree, electronics training through the military or civilian agencies, or work experience in the electronics industry. Credit for post secondary course work, military training and work experience is evaluated on an individual basis. Students with an approved AAS degree in Electronics Technology or its equivalent may be able to transfer up to 36 hours of approved career electives. In addition, transfer credit for University Core Curriculum requirements varies depending on previous course work. An individual who has earned an AAS degree also may qualify for the Southern Illinois University Carbondale Capstone Option. Capstone is a two-year option that gives maximum credit for previous academic and work experience in the student's occupational field. More information about the Capstone Option can be found in Chapter 3.

The Electronics Management program has signed a number of "Program Articulation Agreements" with electronics-related community college degree programs in order to facilitate the transfer of community college students to SIUC. These agreements take full advantage of the Capstone Option for admission to the Bachelor of Science in Electronics Management. The colleges with which SIUC has signed such an agreement include: Rend Lake College (IL), Kaskaskia College (IL) and Lewis and Clark Community College (IL). Agreements with Wabash Valley College and other schools are pending. If you have questions about how these agreements apply to your personal situation, contact the community college program representative or contact the academic advisor in Electronics Management at (618) 453-7200 or <<http://www.siu.edu/~imsasa/>>.

Bachelor of Science Degree, College of Applied Sciences and Arts

ELECTRONICS MANAGEMENT MAJOR

Individuals choosing the Electronics Management curriculum are provided with the technical background necessary for entry level technical positions and the managerial background for advancement into areas requiring management and supervisory skills. This curriculum focuses on the skills and knowledge necessary to effectively integrate technology into the work place.

The process of evaluating and acquiring new and existing technologies, maintaining and managing technological systems and effectively utilizing human resources will be studied. The graduate from this course of study will be able to communicate effectively and coordinate the efforts of skilled technicians in managing complex systems. Skills acquired will allow the graduate to train people in the use and maintenance of complex systems, plan and prioritize efforts to maximize the use of technological resources, and explain technical ideas to non-technical personnel.

<i>University Core Curriculum Requirements</i>	41
<i>Requirements for Major in Electronics Management</i>	79
Approved Career Electives	31-36 ¹
Electronics Management 101, 102, 111, 112, 121, 201, 202, 211, 212, 221, 224 and Information Systems Technologies 209 (or approved equivalents)	
Core Requirements	12
Information Management Systems 366.....	3
Electronics Management 340, 341, and 451	9
Management and Technical Requirements	27-30
Electronics Management 302, 303 or 342, 313 or 343, 365, 385, 387 and/or 388 and 441	24-27
Advanced Technical Studies 364.....	3
Internship, independent study or approved equivalent.....	4-12 ¹
Total	120

¹As approved by the Department.

Electronics Management Suggested Curricular Guide

FIRST YEAR			SECOND YEAR		
	FALL	SPRING		FALL	SPRING
ELM 101, 102	3	3	ELM 201, 202	3	3
ELM 111, 112	3	3	ELM 211, 212	3	3
ELM 121	-	3	ELM 221	3	-
ENGL 101, 102.....	3	3	ELM 224, IST 209 or Ind Stdy	-	6
Mathematics	3	-	SPCM 101	3	-
University Core	3	3	University Core	3	3
Total	15	15	Total	15	15
THIRD YEAR			FOURTH YEAR		
	FALL	SPRING		FALL	SPRING
ATS 364	3	-	ELM 340, 441	3	3
IMS 366	3	-	ELM 341, 451	3	3
ELM 302, 365	3	3	ELM 303 or 342	3	-
ELM 385, 387 or 388.....	3	3	ELM 313 or 343	3	-
University Core	3	6	University Core	3	5
Independent Study, Internship or approved equivalent.....	-	3	Independent Study, Internship or approved equivalent	-	4
Total	15	15	Total	15	15

Bachelor of Science Degree, College of Applied Sciences and Arts

ELECTRONICS MANAGEMENT MAJOR - ELECTRONICS TECHNOLOGY SPECIALIZATION

The Electronics Management major who chooses the Electronics Technology Specialization will take course work designed to provide an effective school-to-work transition for specific careers in the electronics industry. A mandatory internship ensures that students receive field experience within their chosen career field. The curriculum places emphasis on skills necessary to achieve long-term career goals within one of the following segments of the electronics industry:

1. Biomedical Equipment Technology
2. Communications Technology
3. Industrial Technology
4. Microcomputer Technology

Completion of this specialization provides graduates with advanced skills required by electronic technologists. Technical skills include: the planning and implementation of preventive maintenance programs and the testing, troubleshooting and calibration of electronic equipment and systems. In addition, the specialization will include skills in writing, interpreting and presenting technical documentation.

University Core Curriculum	41
Requirements for the Major in Electronics Management with a specialization in Electronics Technology.....	79
Approved Career Electives	36
Electronics Management 101, 102, 111, 112, 121, 201, 202, 211, 212, 221, 224 and Information Systems Technologies 209 (or approved equivalents)	
Core Requirements.....	12
Electronics Management 340, 341, and 451	9
Information Management Systems 366	3
Management and Technical Requirements	27-28
Electronics Management 305, 319 and 404	10
Select from the following: Electronics Management 301, 302, 303, 304, 306, 307, 309, 311, 312, 313, 314, 317, 337, 342, 343, 365, 414, 441, or Health Care Professions 105	17-18 ¹
Independent study or approved equivalent.....	3-4
Total	120

¹As approved by the Department.

Electronics Management with a Specialization in Electronics Technology
Suggested Curricular Guide

FIRST YEAR			SECOND YEAR		
	FALL	SPRING		FALL	SPRING
ELM 101, 102	3	3	ELM 201, 202	3	3
ELM 111, 112	3	3	ELM 211, 212	3	3
ELM 121	-	3	ELM 221, 224	3	3
ENGL 101, 102	3	3	IST 209	3	-
Mathematics	3	-	SPCM 101	3	-
Science	-	3	Science	-	3
Humanities	3	-	Fine Arts	-	3
Total	15	15	Total	15	15
THIRD YEAR			FOURTH YEAR		
	FALL	SPRING		FALL	SPRING
ELM 340, 341	3	3	ELM 305	3	-
ELM Electives	3	6	ELM 319	-	4
IMS 366	3	-	ELM 404	3	-
Humanities	3	-	ELM 451	-	3
Interdisciplinary	-	3	ELM Electives	6	6
Social Science	3	3	Human Health	-	2
Total	15	15	Multicultural	3	-
			Total	15	15

Courses (ELM)

100-3 Introduction to Electronics. This course is an introduction to the field of electronics technology designed for students who are not majoring in Electronics Management. It examines the role of the electronics technician and teaches the fundamental concepts of electronics.

101-3 DC-AC Circuit Analysis. This course covers the theory and application of passive DC and AC circuits presented in a comprehensive manner using qualitative and quantitative methods. Theoretical topics such as Ohm's Law and Kirchhoff's Law are applied to analyze DC and AC circuits. Prerequisite: concurrent enrollment in 111, equivalent, or consent of instructor

102-3 Electronic Circuits Theory. This course presents the use and analysis of active and passive devices in electronic circuits. Semiconductor diodes, bipolar junction transistors and field effect transistors are discussed in circuit applications which include power supplies, amplifiers and switching circuits. Prerequisite: 101 and concurrent enrollment in 112 and 121 or consent of department.

111-3 DC-AC Circuit Analysis Laboratory. This course introduces fundamental skills required by the electronics technician. The fundamental laws and theories of passive DC-AC circuits will be verified through experimentation. Hand tools and electronic test equipment will be used to construct, analyze and troubleshoot electronic circuits. The measurement and analysis of electronic circuits will require the use of the oscilloscope, multimeter, power supply and signal generator. Six contact hours. Prerequisite: concurrent enrollment in 101 or consent of department

112-3 Electronics Circuits Laboratory. This course introduces the fundamental operation, application and troubleshooting techniques associated with semiconductor devices. Formulas and theories associated with the operation of semiconductor circuits will be verified using the oscilloscope, multimeter, power supply and signal generator. Experiments demonstrate the application of diode, transistor amplifier and transistor switching circuits. Six contact hours. Prerequisite: 111 and concurrent enrollment in 102 or consent of department.

121-3 Advanced Analysis and Digital Fundamentals. This course is divided into two distinct subject areas. The first subject area includes advanced laws and theories of DC-AC circuits, circuit theorems and AC circuit analysis using complex numbers. The second subject area encompasses digital fundamentals which include numbering systems, logic gates, combination logic, Boolean algebra, multivibrator circuits and their applications. Prerequisite: concurrent enrollment in 102 or consent of department.

199-1 to 10 Individual Study. This course provides the first-year student with the opportunity to develop a special program of study to fit a particular need not met by other offerings. Enrollment provides access to the resources and facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Prerequisite: approval of the sponsor, program supervisor and department chair.

201-3 Digital Circuits Theory. This course presents the concepts of digital circuits that make up systems such as numeric control, computers and communications networks. The application and analysis of counters, registers, arithmetic logic circuits, analog conversion circuits, memory circuits and basic microprocessor systems are presented. Prerequisite: 102 and 121 or consent of the department.

202-3 Telemetry and Industrial Circuits Theory. This course introduces the principles of acquisition, transmission and application of measurements and data in industrial and commercial systems. The course also introduces the theory and application of solid state and electro-mechanical devices used in industrial control. The principles of the operation of sequential and analog process control are introduced. Prerequisite: 221 and concurrent enrollment in 212 or consent of department.

211-3 Digital Circuits Laboratory. This course provides practical experience assembling, testing, and troubleshooting counters, registers, arithmetic logic circuits, analog conversion circuits, memory circuits and basic

microprocessor systems. An emphasis is placed on the use of data books, safety and troubleshooting. Six contact hours. Prerequisite: 112 and 121 or consent of department.

212-3 Telemetry and Industrial Circuits Laboratory. This course demonstrates the principles of measurement, transmission and utilization of data found in industrial systems. Experiments and projects develop skills in assembling, testing and trouble-shooting of transducer, telemetry and power electronic circuits. An emphasis is placed on the safe procedures for test and measurement of high power and control systems found in the industrial environment. Six contact hours. Prerequisite: 112 and concurrent enrollment in 202 or consent of department.

221-3 Electronic Circuit Analysis. This course analyzes electronic systems through the study of single stage transistor, multiple stage transistor and operational amplifiers. Simplified modeling techniques are applied to compute impedance, gain and frequency response of linear circuits. The course also investigates the effect of positive and negative feedback on circuit performance and characteristics. Operational amplifier applications of filtering, analog computation and waveshaping are covered. Prerequisite: 102 and 121 or consent of department.

223-1 to 3 Electronics Certification Test Preparation. This course will provide the student an opportunity to prepare for industry recognized certification tests. This is an individualized self-paced course. Certification tests are in the areas of communications technology, biomedical technology, industrial technology and computer technology. The student will be responsible for all fees associated with taking the certification tests and purchasing reference materials that are not provided by the program. Prerequisite: consent of department.

224-3 Computer Systems Applications. This course introduces students to microprocessor and microcomputer systems. Included is an introductory presentation of computer operating systems, basic hardware components, microcomputer peripherals, and local area networks. Prerequisite: consent of department.

258-1 to 30 Electronics Work Experience. Credit granted for prior job skills, management-worker relations and supervisory experience while employed in the electronics industry. Credit will be established by departmental evaluation.

259-1 to 60 Electronics Occupational Education. A designation for credit granted for past occupational educational experiences related to electronics management. Credit will be established by departmental evaluation.

298-1 Multicultural Applied Experience. (Multicultural Applied Experience Course) An applied experience, service-oriented credit in American diversity involving a group different from the student who elects the credit. Difference can be manifested by things such as age, gender, ethnicity, nationality, political affiliation, race, or class. The student can sign up for the one credit experience in the same semester he or she fulfills the multicultural requirement for the University Core Curriculum, or the credit can be coordinated with a particular Core Course on American diversity, although neither is a requirement. Students should consult the respective department for course specifications regarding grading, work requirements and supervision. Prerequisite: Approval of the site representative, faculty supervisor and department chair.

299-1 to 16 Individual Study. This course provides the student with the opportunity to develop a special program of study to fit a particular need not met by other offerings. Enrollment provides access to the resources and facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Prerequisite: approval of the sponsor, program supervisor and department chair.

300-3 Introduction to Electronics Management Research. An introduction to library resources, electronic media resources and formal academic writing styles common to electronics management research. Introduction to basic theories, concepts and practices pertinent to electronics management. May be independent study. Prerequisite: electronics management major or consent of department.

301-3 Introduction to Biomedical Instrumentation. This course covers a broad range of material that will introduce the student to maintenance, calibration, safe application and management of biomedical equipment. This course will also provide basic knowledge about the theory of operation, terminology and the underlying principles associated with biomedical equipment. Prerequisite: Allied Health Careers Specialties 105 and 141 or equivalent or consent of department.

302-3 Optical Electronics. This course is designed to provide the theory and practice necessary to introduce the student to the broad fields of fiber optics and optoelectronics. Fiber optics is the optical technology concerned with the transmission of radiant power through transparent fibers and optoelectronics pertains to devices that emit, modify, or respond to optical radiation. Applications of fiber optics and optoelectronics to communications, imaging and sensing will be emphasized, with a concentration on communications applications. Prerequisite: departmental approval.

303-3 Microcomputer Construction and Troubleshooting. The student will be able to construct a microprocessor based system, make it operational and develop techniques used in software/hardware troubleshooting. Three credit hours. Prerequisite: 202 or 212 or consent of department and concurrent enrollment in 309 or consent of instructor.

304-3 Communication Systems. The non-calculus based theory of circuits used in modern AF, Video and RF communication systems; applicable to PA systems through satellite communications. Modulation, demodulation, multiplexing and conversion of both digital and analog signals will be covered. Receivers, transmitters and various interface devices will be studied. Lecture three credit hours. Prerequisite: consent of department and/or consent of instructor.

305-3 Microcomputer Maintenance. This course will provide the theory and practice to diagnose and repair personal computers and peripheral devices to the component level using electronic test equipment. In addition, the student will be prepared to use interpersonal and communication skills in order to identify and satisfy customer needs. Prerequisite: 201, 202, 224.

306-3 Computer Aided Drafting and Design for Electronics. The theory and practice of computer-aided drawing and design encountered in the electronics industry. Course develops the competencies and skills necessary to produce the graphic designs encountered in the field. Application of computers to the synthesis of designs to practical realizations. Prerequisite: consent of department and/or consent of instructor.

307-3 Advanced Industrial Electronics. The theory and application of input and output field devices involved in data acquisition and computer based process control. Selection and application of computer based control equipment as it pertains to automatic monitoring, control and production. Primarily focused toward imbedded microcomputer control systems and commercial programmable controllers. Must be taken concurrently with 317. Prerequisite: 201 and 211, concurrent enrollment in 317, or consent of instructor.

309-3 Microcomputer Programming. This course is designed to familiarize the student with several microprocessor architectures and instruction sets with emphasis on the Intel series of processors. Microcomputer tools for programming and debugging will also be presented. The student will program in both machine language and assembly language with emphasis on programming techniques. Prerequisite: departmental approval and/or consent of instructor.

311-3 Electronics Biomedical Instrumentation Laboratory. This course provides hands-on experience with common biomedical instrumentation. The student will perform exercises that will teach maintenance, calibration safe application and management of biomedical instrumentation. This course will also provide basic knowledge about the theory of operation, terminology and the underlying principles associated with biomedical equipment. Prerequisite: concurrent or prior enrollment in 301 or consent of department and/or consent of instructor.

312-3 Optical Electronics Laboratory. This laboratory is designed to reinforce the concepts of fiber optics, laser and light physics. Emphasis will be placed on the integration of laser, fiber optic and communication principles with electronics. Prerequisite: concurrent enrollment in 302 or consent of instructor.

313-3 Microcomputer Construction and Troubleshooting Laboratory. This laboratory is designed to reinforce the concepts of microcomputer construction, operation, troubleshooting, programming and interfacing through actual practice. Prerequisite: prior or concurrent enrollment in 303 and 309 or consent of instructor.

314-3 Communication Systems Laboratory. Designed to reinforce the concepts of modern AF, video and RF communication systems. AM, FM, SSB, PCM and complex modulation AF signals will be investigated in a laboratory environment. Prerequisite: concurrent enrollment in 304.

315-3 Network Installation and Administration. This course takes a lab/lecture approach which leads the student through a series of activities involved in the installation of a local area network (LAN) capable of sharing information and a variety of electronic input/output devices. The student will be introduced to various LAN designs, communication protocols, network certification requirements, as well as the procedures for selecting, installing and managing a LAN. Lecture and lab. Prerequisite: 224.

317-3 Advanced Industrial Electronics Laboratory. A laboratory course allowing hands-on experience with circuitry involved in data acquisition and compute based process control. Emphasis on the design and testing of signal conditioning circuitry, writing software, and programming imbedded microcomputer control systems and commercial programmable controllers. This is a three credit hour laboratory course to be taken concurrently with 307. Prerequisite: 201 and 211, concurrent enrollment in 307, or consent of instructor.

319-1 to 15 Electronic Occupations Internship. Students will be assigned to a University approved program to engage in activities related to the electronics management program and the student's career objectives. The student will perform duties as assigned by the work supervisor and the internship coordinator. Internships may be performed in one of the following areas: (a) Biomedical Equipment Technology, (b) Communications Technology, (c) Computer Technology, or (d) Industrial Technology. Mandatory Pass/Fail. Prerequisite: consent of instructor.

320-1 to 12 Electronics Occupations Cooperative Education. Each student will participate in a departmentally approved cooperative education program that includes formal instruction, training and/or career-related work experience. Students receive a salary or wages and engage in pre-arranged assignments related to their academic program and career objectives. Department faculty evaluation, cooperative agency student performance evaluations and student reports are required. Hours and credit to be individually arranged. Mandatory Pass/Fail. Prerequisite: consent of instructor.

337-3 Power Distribution and Motor Control. The theory and application of electrical power distribution systems from plant substation to branch circuits. Emphasis on safety in working with these systems. Fundamental operation and application of various types of electric motors and transformers. The theory and application of electronic and electromechanical control systems for motors. Prerequisite: consent of department and/or consent of instructor.

340-3 Application of Solid State Devices. A technical and managerial approach to the practical application of discrete solid state devices and linear integrated circuits. The characteristics of these devices will be reviewed to assist the student in understanding their selection and application process. Prerequisite: Electronics Management major or consent of department.

341-3 Digital Circuit Applications. Applications of digital electronic devices and circuits in business and industry. Geared to the needs of the technical manager, this course builds upon the student's knowledge of basic electronics theory. Basic principles of subsystems are reviewed to assist the student in understanding their selection and application to business/industrial settings. Prerequisite: electronics management major or consent of department.

342-3 Microcomputer Applications. This course uses a microcomputer approach from the standpoint of the technical manager. The primary emphasis of this course is on the practical uses of microcomputer systems in business and industry. Basic characteristics and principles of microcomputers will be reviewed to provide an

understanding of applications in specific business and industrial settings. Prerequisite: 341 or consent of department.

343-3 Microcomputer Application Laboratory. Laboratory experiences selected to reinforce microcomputer characteristics and practical applications in business and industry. Students sample applications of microcomputer systems on an operational microprocessor. Included is the theory of operation, basic hardware component blocks, software operating system, program development and entry. Prerequisite: 342 or concurrent enrollment in 342; may be independent study.

350-1 to 32 Technical Career Subjects. This course provides the student with in-depth competency and skill development and exploration of innovative techniques and procedures used in business, industry, professions and health service occupations offered through various workshops, special short courses, and seminars. Hours and credits to be individually arranged. This course may be classified as independent study. Prerequisite: consent of instructor.

351-3 Readings in Electronics Management. The use of written and electronic media resources relevant to electronics management and the development of an electronics management research bibliography. The use of bibliographic resources to produce written comparative or persuasive research reports. May be independent study. Prerequisite: 300 and electronics management major or consent of department.

365-3 Electronics Industry Data Applications. The application of statistical data within the electronics industry to include an introduction to the basic statistical treatment of data, data sources and the design of statistical studies. Emphasis in on the principles and techniques of data analysis, synthesis, and utilization as applied to decision making in the electronics field. Student will gain experience in applying data to decision making through case studies and class projects. Prerequisite: Mathematics 108 or consent of department.

385-3 Fiscal Aspects of Electronics Management. An introduction to the types of fiscal problems encountered in the electronics industry. The course will address the diverse sizes and types of business within the field and will include an introduction to the accounting process. Emphasis will be given to financial management systems, financial analysis tools, cash flow management and budgeting procedures. Prerequisite: electronics management major or consent of department.

387-3 Electronics Industry Labor-Management relations. A study of economic situations that affect labor-management relations in electronics-related career fields. Study will include the evolution of labor relations in the American electronics industry and interactive differences in labor-management relations from a global perspective. Laws that are common to both union and non-union employees will be emphasized. Prerequisite: electronics management major or consent of department.

388-3 Legal Aspects of Electronics. An introduction to the types of legal problems encountered in the electronics industry to include American legal heritage and legal rights. The course will emphasize the nature and classification of contracts, warranties, product liabilities, consumer protection and applicable employment laws. Prerequisite: electronics management major or consent of department.

401-3 Analysis of Issues in the Electronics Industry. The identification and study of current economic, regulatory or operational issues impacting the electronics industry. The use of both written and oral reports to present a critical analysis of selected topics. May be independent study. Not for graduate credit. Prerequisite: 300 and electronics management major or consent of department.

404-3 Communication Systems Management. Coverage of a broad range of material that will introduce the student to maintenance, evaluation, installation, troubleshooting and management of communications equipment, with an emphasis on computer networks. This course will also provide advanced knowledge about the theory of operation, terminology and the underlying principles associated with the transmission of voice, data and video information through telephone, satellite and cellular radio communications equipment. Not for graduate credit. Prerequisite: 305.

414-3 Communication Systems Management Laboratory. Coverage of a broad range of material that will allow the student to have hands-on experience with the maintenance, evaluation, installation, troubleshooting and management of local area networks (LANs) and telephone, satellite and cellular radio communications equipment. Not for graduate credit. Prerequisite: 404 or concurrent enrollment in 404.

420-1 to 12 Electronics Management Cooperative Education. Students may participate in a departmentally approved cooperative education program that includes formal instruction, training and/or career-related work experience. Students will receive a salary or wages and engage in pre-arranged assignments related to their academic program and career objectives. Department faculty evaluation, cooperative agency student performance evaluations and student reports are required. Hours and credit to be individually arranged. Mandatory Pass/Fail. Not for graduate credit. Prerequisite: consent of instructor.

441-3 Career Development for Electronics Managers. A study of elements to consider when seeking employment in an electronics career field. These elements include personal inventories and resumes, placement service and employment agencies, interviewing techniques, letters of application, references and employment testing. Emphasis will be placed on the roles of mentoring, membership in professional organizations, continuing education and other opportunities for professional growth throughout a career in the electronics industry. Each student will develop a portfolio including personal and professional information related to individual career goals. Not for graduate credit. Prerequisite: electronics management major or consent of department.

450-3 Management Problems in the Electronics Industry. The identification and study of problems related to management within the electronics industry. The application of electronics management theories, concepts and practices to the identified management problems. The use of written and electronic media research resources to produce a written problem solving report. May be independent study. Not for graduate credit. Prerequisite: 351 or 401 and electronics management major or consent of department.

451-3 Current Trends in Electronics Management. This course is designed to familiarize the student with current managerial trends that support the installation, evaluation, repair and maintenance of electronic systems. Topics may include but are not limited to economic justification and cost control, quality control and program improvement, compliance with codes, equipment control and evaluation and input to administration. Not for graduate credit. Prerequisite: senior status in electronics management or consent of department.

Elementary Education

(SEE CURRICULUM AND INSTRUCTION)

Engineering (College, Courses)

Courses (ENGR)

Safety glasses, a hand-held scientific calculator and textbooks are required for all engineering students.

102-2 Computer-Aided Engineering Drawing. [IAI Course: EGR 941] Manual sketching and computer aided engineering drawings techniques. Lettering; orthographic projections, isometric projection, oblique projections, auxiliary views, dimensioning, sectioning, working drawings.

222-4 (2,2) Computational Methods for Engineers and Technologists. Introduces the student to the use of digital computers in the solution of technical problems that are specifically designed for the engineering and technology student. Problem analysis, flowcharting, coding, diagnostics, execution, and solution verification are discussed. (a) Programs written in FORTRAN. (b) Programs written in C language. Prerequisite: Mathematics 111.

260-5 (2,3) Mechanics of Rigid Bodies. (a) [IAI Course: EGR 942] Principles of statics; force systems; equilibrium of particles and rigid bodies; trusses, frames and machines, centroids; friction; moments of inertia of areas. Prerequisite: 102 and Mathematics 150. (b) [IAI Course: EGR 943] Principles of dynamics; mass moment of inertia; kinematics and kinetics of particles and rigid bodies; vibrations. Prerequisite: 260a or equivalent.

300-3 Engineering Thermodynamics. [IAI Course: EGR 946] Study of the basic principles of thermodynamics. Engineering analysis of physical systems based on the first and second laws. Properties of pure substance (ideal gas behavior, non-ideal gas behavior, and equations of state.) Mixtures of ideal gases. Introduction to cycle analysis. Prerequisite: Mathematics 250, Physics 205a,b.

301I-3 Humans and Their Environment. (University Core Curriculum) [IAI Course: L1 905] An introduction to the study of the relationship between humans, resource consumption, pollution and the resulting environment. The effects of current human pollution and resource consumption on the environmental quality of the future. The interrelation of human population resource consumption and pollution. Methods of minimizing resource consumption and human pollution through both technological controls and changes in human behavior. Prerequisite: high school chemistry or equivalent.

303I-3 The Role of Energy in Society. (University Core Curriculum) Lectures, discussions and class projects directed at understanding the role of energy, power and related concepts in society; in the past, the present and the future. Review of current energy resources and use patterns, as well as projections for new energy conservation techniques and the development of alternative energy technology. An overview of worldwide energy needs, seeking to identify future limits on energy use attributable to environmental, economic, political and other technological and evolutionary constraints. Prerequisite: satisfactory completion of three hours of University Core Curriculum science requirements.

311-3 Mechanics of Deformable Bodies. (See Civil Engineering 350.) [IAI Course: EGR 945]

312-3 Materials Science Fundamentals. Sub-microscopic structure of solids, including electronic states, atomic and molecular arrangement, structural imperfections and atomic diffusion, and their relationship to macro-mechanical properties. Laboratory supply fee, \$5. Prerequisite: Physics 205a, Mathematics 250, Chemistry 200, 201.

313-3 Fluid Mechanics. (See Civil Engineering 370.)

335-3 Electric Circuits. [IAI Course: EGR 931] Foundation course in electric circuits. Basic laws and concepts of linear circuits. Analysis of AC and DC circuits by mesh and nodal methods, Thevenin's and Norton's theorems, superposition principle, and phasor notation. Transients. Prerequisite: Mathematics 250.

345-3 Electronics. Functional electronics and basic signal processing. Characteristics and typical applications of analog and digital electronic modules. Operational amplifiers. Fundamentals of transistors. Use of basic instruments. Lecture and laboratory. Laboratory fee of \$10 to help defray cost of consumable items. Prerequisite: 335.

351-3 Numerical Methods in Engineering. Overview of numerical procedures such as root finding, curve fitting, integration, solutions of simultaneous equations, and solutions of ordinary differential equations. Emphasis will be on applications of these techniques to problems in engineering mechanics, and civil and mechanical engineering. Prerequisite: 102, 222a and concurrent enrollment or completion of Mathematics 305.

361-2 Engineering Economics in Design. Procedures for evaluating the relative economic merits of engineering projects and designs. Use of these procedures permits comparing alternate engineering estimates, evaluate engineering effectiveness, and proceed toward decision making based on economic and engineering optimization. Professional engineering examinations include these course materials. Prerequisite: Mathematics 111 or equivalent.

385-3 Electromechanical Energy Conversion. Principles of electromechanical energy-conversion and related circuitry. Magnetic circuits. Transformers. DC machines. Single-phase and polyphase machines. Polyphase circuits. Prerequisite: 335.

400-1 Engineering Professionalism and Ethics. The role of the engineer as a professional in society and in the corporate structure. Engineering registration. The basis and function of Engineering Codes of Ethics. Major ethical/philosophical value systems in our country. Ethics applied to specific engineering case studies. Not for graduate credit. Prerequisite: senior standing in the College of Engineering.

455-3 Engineering Geology. (See Geology 455.)

Engineering Technology (Major, Courses)

Engineering technology is that part of the technological field which requires the application of scientific and engineering knowledge and methods combined with technical skills in support of engineering activities; it lies in the occupational spectrum between the technician and the engineer at the end of the spectrum closest to the engineer.

All curricula in engineering technology are accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology. These curricula are the electrical engineering technology and the mechanical engineering technology specializations. For each curriculum, a minimum of 30 hours in engineering technology courses must be taken in residence at Southern Illinois University Carbondale.

Bachelor of Science Degree, College of Engineering

ENGINEERING TECHNOLOGY MAJOR – ELECTRICAL ENGINEERING TECHNOLOGY SPECIALIZATION

The electrical engineering technology specialization is designed to prepare technologists who are capable of technical design and who can contribute to the development, production, testing, and installation of electrical and electronic devices, circuits, and systems. In addition, graduates are capable of participation in the planning and installation of power distribution systems and operating and maintaining complex electrical systems. Graduates of the program are employed in communications, power, electronics, sales, manufacturing, and other fields.

<i>University Core Curriculum Requirements</i>	41
Foundation Skills	12
English 101, 102	6
Mathematics (substitute Mathematics in major)	3
Speech Communication 101	3
Disciplinary Studies	23
Fine Arts	3
Human Health	2
Humanities	6
Science (substitute Physics in major)	6
Social Science	6
Integrative Studies	6
Multicultural	3
Interdisciplinary	3
<i>Requirements for Major in Engineering Technology with Electrical Engineering Technology Specialization</i>	(9) + 84 ¹
Physics 203a,b, 253a,b; Chemistry 140a	(6) + 6
Mathematics 111, 150, 250	(3) + 10

Management 202	3
Engineering 222a	2
Engineering Technology 238, 245a, 304a, 304b, 332a, 332b, 403a, 403b, 437a, 437b, 438a, 438b, 439	52
Technical electives	11
Total	125

¹ Courses in parenthesis will also apply towards 6 hours in the University Core Curriculum, making a total of 41 .

Electrical Engineering Technology Suggested Curricular Guide

FIRST YEAR		FALL	SPRING	SECOND YEAR		FALL	SPRING
Select ¹	3	9		Select ¹	5	3	
ENGL 101, 102	3	3		ENGR 222a	-	2	
CHEM 140a ²	4	-		MGMT 202	-	3	
MATH 111 ²	5	-		ET 245a	-	4	
MATH 150	-	4		SPCM 101	3	-	
				MATH 250	4	-	
				PHYS 203a,b ²	3	3	
				PHYS 253a,b	1	1	
Total	15	16		Total	16	16	
THIRD YEAR		FALL	SPRING	FOURTH YEAR		FALL	SPRING
ET 439	-	4		ET 403a,b	4	4	
Select ¹	3	-		ET 437a,b	4	4	
ET 238	4	-		ET 438a,b	4	4	
ET 304a,b	4	4		Technical Elective	5	3	
ET 332a,b	4	4					
Technical Electives	-	3					
Total	15	15		Total	17	15	

¹ See University Core Curriculum requirement
²Substitutes for University Core Curriculum

ENGINEERING TECHNOLOGY MAJOR – MECHANICAL ENGINEERING TECHNOLOGY SPECIALIZATION

The mechanical engineering technology specialization is designed to prepare graduates for a career in power and manufacturing industries; it provides a diverse background in general mechanical technology focusing in such areas as fluid power, computer-aided drawing, thermal science, mechanical design technology and mechanical aspects of manufacturing systems. Graduates are employed by electric utilities, manufacturing firms, architectural/engineering firms, and other industries which deal with mechanical products or equipment.

University Core Curriculum Requirements	41
Foundation Skills	12
English 101, 102	6
Mathematics (substitute Mathematics in major)	3
Speech Communication 101	3
Disciplinary Studies	23
Fine Arts	3
Human Health	2
Humanities	6
Science (substitute Physics in major)	6
Social Science	6
Integrative Studies	6
Multicultural	3
Interdisciplinary	3
Requirements for Major in Engineering Technology with Mechanical Engineering Technology Specialization	(9) + 83 ¹
Physics 203a,b, 253a,b; Chemistry 140a	(6) + 6
Mathematics 111, 150, 250	(3) + 10
Management 202	3
Engineering 222a	2

Engineering Technology 103, 104, 209, 245a, 260a, 260b, 311, 312, 313, 317, 318, 342, 401, 404, 424a	45
Technical electives	17
Total	124

¹Courses in parenthesis will also apply toward 6 hours in the University Core Curriculum, making a total of 41 in that area.

Mechanical Engineering Technology Suggested Curricular Guide

FIRST YEAR			SECOND YEAR		
	FALL	SPRING		FALL	SPRING
Select ¹	-	6	Select ¹	2	3
ENGL 101, 102.....	3	3	SPCM 101 ET 245a	3	4
CHEM 140a ²	4	-	ENGR 222a	-	2
ET 103, 104	3	3	ET 260a,b.....	3	3
MATH 111 ² 150	5	4	MATH 250.....	4	-
			PHYS 203a,b ²	3	3
			PHYS 253a,b	1	1
Total	15	16	Total	16	16
THIRD YEAR			FOURTH YEAR		
	FALL	SPRING		FALL	SPRING
Select ¹	6	3	Select ¹	3	-
ET 311	-	3	ET 342	-	2
ET 312, 209	3	3	ET 401	3	-
ET 313	-	3	ET 404	3	-
ET 317, 318	3	3	ET 424a	-	3
MGMT 202	3	-	Technical Electives	5	9
Technical Electives.....	3	-	Total	14	14
Total	18	15			

¹ See University Core Curriculum requirements
²Substitutes for University Core Curriculum

Courses (ET)

A suitable calculator and textbooks are required for most of the following courses.

- 103-3 Engineering Drawing I.** (Same as Industrial Technology 105) Links the components of technical sketching with current CAD software. Sketching to include: orthographic projection, sectional views and dimensioning. Employ these elements with current CAD software in creating drawing entities, managing layers, displaying and modifying drawings, annotating and dimensioning, and file management.
- 104-3 Engineering Drawing II.** Principles and practices of engineering drawing. Representation of mechanical components, dimensioning, tolerancing, and mechanical drawing symbols. Introduction to computer-aided drawing systems with applications to both micro-computer and mini-computer systems. Prerequisite: 103.
- 202-3 Structural Detailing.** Principles and practices of engineering drawing as applied to structural design with emphasis on reinforced concrete and structural steel drawings. Drawing supplies required, cost \$8. Prerequisite: 103.
- 209-3 Manufacturing Process Laboratory.** (Same as Industrial Technology 209) Laboratory experiments to familiarize the student with the theory and operation of manufacturing processes. Laboratory. Prerequisite: IT 208 or consent of instructor.
- 236-2 Electrical Instrumentation.** Theory and use of D.C. and A.C. instruments; measurement and error, units, standards, meters, bridges, oscilloscopes, electronic instruments, instruments for generation and analysis of waveforms, counters, and transducers. Laboratory. Prerequisite: Mathematics 111.
- 238-4 Digital Fundamentals.** Introduction to fundamental concepts of digital systems, logic gates, simulation of logic gates, combinational logic design, Karnaugh maps, number systems, flip-flops, sequential circuits, digital circuit fault analysis, and comparison of logic families. Laboratory. Prerequisite: Mathematics 111.
- 245-8 (4,4) Electrical Systems for Industry. (a)** Electrical symbols and schematics, resistance, Ohm's Law, capacitance, inductance, Kirchhoff's Law, meters, A.C. fundamentals, transformers, power factor, and safety. Laboratory. Prerequisite: Mathematics 111. **(b)** Introduction to electronics: laboratory practices, oscilloscopes, meters, components, power supplies, amplifiers, and characteristics of semiconductor devices. Laboratory. Prerequisite: Mathematics 111.
- 260-6 (3,3) Principles of Mechanics. (a)** Statics. Concepts of force systems, moments, and equilibrium of rigid bodies, analysis of trusses and frames, determination of centroids, center of gravity, and moments of inertia, calculation of shear and moment diagrams in beams. Prerequisite: Mathematics 150 or concurrent enrollment. **(b)** Dynamics. Friction; particles and rigid bodies in translation, rotation, and plane motion; relative motion; impulse and momentum; work and energy. Prerequisite: 260a, Mathematics 150.
- 263-4 Basic Surveying.** Use and care of surveying instruments; principles of surveying practice and computation. Laboratory. Prerequisite: 103, Mathematics 111.
- 304-8 (4,4) Electrical Circuits. (a)** Solutions to D.C. steady-state networks by branch, equivalent circuit, loop circuit, and node voltage methods. Study of network theorems. Extension of these topics to A.C. steady-state

by use of the phasor transform. Laboratory. Prerequisite: 245a, Mathematics 150 or concurrent enrollment. **(b)** Further topics in A.C. circuits; frequency response, resonance, filters, transformers and magnetic coupling, complex power, and dependent sources. Transient response by the classical solution of differential equations and by Laplace transform methods. Laboratory. Prerequisite: 304a, Engineering 222a, Mathematics 250 or concurrent enrollment.

311-3 Strength of Materials. Stress and strain; torsion, bending, and combined stresses; beam deflections; behavior of columns. Laboratory. Prerequisite: 260a, Engineering 222a or concurrent enrollment.

312-3 Materials Fundamentals for Design and Manufacturing. Applications and characteristics of metallic and nonmetallic materials used in design and manufacturing. Characteristics and properties of materials used in engineering applications. Prerequisite: Physics 203a,b; 253a,b.

313-3 Elementary Heat Power. First and second law analysis, properties of systems, fluid phases and mixtures. Mass and energy balances of steady state systems. Psychrometrics, power and refrigeration cycles, and fundamentals of heat transfer. Prerequisite: Mathematics 150.

314-6 (3,3) Soil Mechanics. (a) Laboratory determination of the basic properties of soils; components of soil surveys; engineering soil classifications; fundamental study of soil properties. Laboratory. Laboratory notebook required, costing approximately \$4. **(b)** Soil water and seepage; frost action in soils; soil stabilization; stress distribution in soils and introduction to foundation design. Prerequisite: 260a, 314a.

315-2 Elementary Structural Analysis. Applications of the principles of mechanics to the determination of forces and deflections of statically determinate structures; approximate methods of determining member forces in indeterminate frames; study of various types of structures and loading conditions. Prerequisite: 260a, Engineering 222 or concurrent enrollment.

317-3 Fluid Mechanics. Fundamentals of fluid statics, basic fluid flow concepts for idealized fluids, flow networks, and introduction to viscous fluids. Prerequisite: 260b.

318-3 Hydraulics and Pneumatics. Viscous flow in closed conduits, basic hydraulic machinery, and fluid power systems. Laboratory. Prerequisite: 317.

321-3 Instrumentation and Controls. Analog and digital signal conditioning; thermal, mechanical, and optical transducers; electrical pneumatic and hydraulic actuators; and control loop dynamics. Laboratory. Prerequisite: 245a.

332-8 (4,4) Electromagnetic Principles and Devices. (a) Introduction to D.C. and A.C. machinery. Theory and operating characteristics of D.C. generators and D.C. motors. Laboratory. Prerequisite: 304a or concurrent enrollment. **(b)** Theory and operating characteristics of polyphase and single-phase A.C. motors. Special applications of A.C. and D.C. motors. Laboratory. Prerequisite: 332a, 304a.

342-2 Technology Design. A design project on any technical subject selected by the student with advice from the instructor. Individual or group effort required to develop functional design. Report writing and oral presentation required. Prerequisite: 311, 312, 313, 318.

390-3 Cost Estimating. (Same as Industrial Technology 390.) Study of the techniques of cost estimation for products, processes, equipment, projects, and systems. Prerequisite: Mathematics 111.

392-2 (1,1) Engineering Technology Co-op. Supervised work experience in Engineering Technology industry. Prerequisite: junior standing and consent of instructor. Mandatory Pass/Fail.

401-3 Refrigeration and Air Conditioning. Applications of thermodynamics and heat flow to air conditioning systems. Heating and cooling load analysis. Principles of human comfort. Discussion of various refrigeration and air conditioning cycles and their application to laboratory simulators. Laboratory. Prerequisite: 313.

403-8 (4,4) Electronics Technology. (a) Fundamental theory and operation of semiconductor diodes and bipolar transistors, incremental models for transistors, biasing, stability, and feedback of single and multistage amplifiers. Parameters and applications of field-effect transistors, opto-electronic devices, thyristors, unijunction transistors and amorphous semi-conductors. Laboratory. **(b)** Parameters and applications of operational amplifiers, linear integrated circuits, monolithic voltage regulators, and digital integrated circuits. Laboratory. Must be taken in a,b sequence. Prerequisite: 304b, 403a.

404-3 Machine Design Technology. Strength and safety considerations in design of machine parts. Fatigue and stress concentrations, bearings, brakes, clutches, and springs. Applications of the principles of mechanics to problems of design and development, mechanisms. Laboratory. Not for graduate credit. Prerequisite: 260a, 311.

408-3 Computer Assisted Drawing and Design. Theory and practice of computer graphics as applied to computer assisted design. Use of programming and commercial programs to assist in mechanical engineering technology design projects. Not for graduate credit. Prerequisite: 104, 260a, 313, 317, Engineering 222a, and senior standing.

415-4 Elementary Structural Design. Introduction to structural properties of steel and reinforced concrete. Design of basic steel elements: tension members, beams, columns, and connections. Basic design of reinforced concrete elements: beams, columns, and footings. Use of AISC and ACI codes. Prerequisite: 202, 311 (or concurrent enrollment), 315.

424-6 (3, 3) Power Systems Technology. (a) Fundamentals of basic power plant operation, economics and equipment. Advanced Rankine cycles and cogeneration. Fuel classification and combustion principles. Alternative energy sources and conversion. Students work concurrently on group design projects emphasizing written and oral deliverables. Prerequisite: 311, 312, 313, 317, 318. **(b)** Alternate energy systems, e.g., wind power, solar energy, geothermal energy, biomass. Extension of 424a with heavier emphasis on optimization of design. Prerequisite: 424a.

437-8 (4,4) Communications Systems Technology. (a) Theory and applications of radio frequency transmission lines, waveguides, optical fibers, wave propagation, and antennas. Laboratory. Prerequisite: 304b. **(b)** Theory and applications of analog and digital communications systems. Laboratory. Prerequisite: 403a, 437a.

438-8 (4,4) Continuous and Digital Control Systems. (a) Fundamentals of continuous control systems; equation of electrical, hydraulic and thermal systems; application of LaPlace transforms, transfer functions, block diagrams, and flow graphs. Computer implemented graphical analysis and design methods: root locus, frequency response. Nyquist diagrams and compensator design. Continuous systems laboratory. Prerequisite: 304b. (b) Fundamentals of digital control systems, Stepper motors, digital data acquisition and interface components, Fourier transforms, Z transforms, and applications of fast Fourier transform. Digital control laboratory. Prerequisite: 438a.

439-4 Microprocessor Applications and Hardware. A study of microprocessor applications and hardware based on microprocessor manufacturer's literature. System configuration, hardware, requirements, typical instruction set, programming, input/output techniques, interfaces, and peripheral devices. Prerequisite: 238.

445-3 Computer-Aided Manufacturing. (Same as Industrial Technology 445.) Introduction to the use of computers in the manufacturing of products. Includes the study of direct and computer numerical control of machine tools as well as interaction with process planning, inventory control and quality control. Laboratory. Prerequisite: Engineering Technology 103 or Industrial Technology 105, Industrial Technology 208 or Engineering Technology 209, and computer programming.

455-3 Industrial Robotics. (Same as Industrial Technology 455.) Study of industrial robots and their applications; pendant and numerical programming of robots. Robotics design including tactile and visual sensors. Technical and psychological problems of justification, installation, and management of robotic systems. Prerequisite: 445.

492-1 to 6 Special Problems in Industry and Technology. Special opportunity for students to obtain assistance and guidance in the investigation and solution of selected technical problems. Not for graduate credit. Prerequisite: consent of instructor.

Engineering Technology Faculty

(SEE TECHNOLOGY)

English (Department, Major, Courses)

The major in English is 36 semester hours at least half of which must be taken at Southern Illinois University Carbondale. The English major may choose from four specializations.

Students who wish to declare English as a major should consult the director of undergraduate programs in English early in their college careers. Continuing students who wish to declare an English major should petition the Department of English for admission to the department. Transfer students should bring their transcripts and evaluation of transfer credit. Thereafter, all English majors must have their advance registration forms signed by an adviser in the Department of English. Only English courses that are completed with at least a C will fulfill a major requirement. Deviations from regular programs must have prior written department approval.

Students who wish to construct an inter-departmental major in English and certain related fields may do so in consultation and with the approval of the director of undergraduate programs in English.

All students are strongly urged to supplement their English majors through the study of classical and modern languages, as well as the study of foreign literature in translation. Majors preparing for graduate school should take two years of a foreign language.

Although a minor field is not required, students are urged to consider complementary minor fields such as foreign languages and literatures, history, philosophy, and journalism.

ENGLISH CORE CURRICULUM

All students majoring in English will take the following courses:

English 301, 302a, 302b, 309a, 309b, and either 365 or 471 or 472.

Bachelor of Science Degree, College of Education or Bachelor of Arts Degree, College of Liberal Arts

Students who wish to become certified teachers of English may pursue their majors as follows:

University Core Curriculum Requirements 41

To include ENGL 101 and 102; SPCM 101; MATH 110 or 113 or approved substitute; CHEM 106, GEOL 110 or PHYS 101; PLB 115, 117 or ZOOL 115; PLB 301i, 303i or ZOOL 312i; ENGL 121; HIST 101A¹; AD 101, MUS 103, HIST 201 or THEA 101; HIST 110; FL 230²; POLS 114; PSYC 102; ANTH 202, ENGL 205, HIST 202, 210 or SOC 215; HED 101 or PE 101.

Requirements for Major in English	36
In addition to these 36 hours English majors should take one of the following: Foreign Language 230, English 332 or 333.	
In addition to the core curriculum, teacher training candidates will take the following courses: English 300, 481, 485, a 400-level course in English literature before 1800, a 400-level course in continental literature, and one elective chosen from 300 and 400-level English courses.	
Education Requirements	31
Professional Education Requirements	28
See Teacher Education Program.	
Additional Course required for Teacher Certification	3
Psychology 102	
Electives	12
Students in the College of Liberal Arts must complete the college requirements as a part of the 12 hours. (See above.)	
Total	120

¹Required to meet non-western civilization/third world culture requirement.
²Must earn a grade of C or better.

Bachelor of Arts Degree, College of Liberal Arts

A student may wish to pursue one of several specializations in the College of Liberal Arts. The degree earned and the requirements for the degree are as follows:

University Core Curriculum Requirements	41
Academic College Requirements	8
Refer to Chapter Four under College of Liberal Arts	
Requirements for Major in English	39
To include Foreign Languages and Literatures 230, with a grade of C or better	
Electives	32
Total	120

ENGLISH MAJOR – GENERAL/GRADUATE SCHOOL SPECIALIZATION

In addition to the core curriculum, students will take six electives from the 300 and 400-level courses in English, with several courses at the 400-level. At least one of these elective courses must be a course in English literature before 1800, and one a course in continental literature. Students planning to enter graduate school are strongly urged to take two years of a foreign language or the equivalent. Students should consult with their departmental adviser to achieve a suitable range and breadth of course work.

ENGLISH MAJOR – CREATIVE WRITING SPECIALIZATION

In addition to the core curriculum, students should take two courses selected from English 381a, 382a, 384; English 381b and 382b; English 351 or 352; and either 492a or 492b or 492c.

ENGLISH MAJOR – PREPROFESSIONAL SPECIALIZATION

In addition to the core curriculum, majors interested in such fields as law and government will take the following courses:
English 290, 300, 391, 445; two electives, which may concentrate on a special interest, and which, with the consent of the departmental adviser, may include a course in another department.

Minor

The minor in English is a minimum of 18 semester hours at least half of which must be taken at Southern Illinois University Carbondale. Only English courses which are completed with at least a C fulfill a minor requirement.

Minors are available with several specializations, and the following are listed as examples only. Students interested in English as a minor are invited to confer with the director of undergraduate programs in English, or an adviser in the Department of English.

ENGLISH MINOR – TEACHING SPECIALIZATION (18 HOURS)

For students who wish to meet the minimum certification requirements for teaching English in the secondary schools, the following courses are required: English 300; 301; 471, 472 or 365; 485; and two of the following: English 302a, 302b, 309a, 309b or 445.

ENGLISH MINOR – PREPROFESSIONAL SPECIALIZATION (18 HOURS)

English 300; 290; 301; 391; 445; and 365, 471 or 472.

ENGLISH MINOR – CREATIVE WRITING SPECIALIZATION (18 HOURS)

Creative writing minors should take at least one course from English 381a, 382a or 384; English 381b or 382b; English 351 or 352; either English 492a, 492b, or 492c; and two 300- or 400- level English courses.

ENGLISH MINOR – WORLD LITERATURE SPECIALIZATION (18 HOURS)

English 209, 301; and four courses from 425, 438, 445, 455, 465. For further information, see catalog section titled Comparative Literature.

Courses (ENGL)

100-3 Basic Writing. This course prepares students for the writing demands of English 101 and of the University. It teaches students processes for developing ideas, developing and organizing sentences and paragraphs, drafting, revising and editing. Placement in this course is determined by a combination of ACT score and a writing placement exam, or by a diagnostic essay exam given the first week of class in English 101.

101-3 English Composition I. (University Core Curriculum) [IAI Course: C1 900] This course provides students with the rhetorical foundations that prepare them for the demands of academic and professional writing. To this end, English Composition I teaches students how to recognize and deploy the strategies and processes that translate into effective written products in a variety of contexts for a variety of purpose. Class discussion and readings focus on the function and scope of literacy in professional and personal contexts. Prerequisite: English 100 with a minimum grade of C or placement by a combination of ACT score and Writing Placement Exam, or by diagnostic essay exam given the first week of this class.

102-3 English Composition II. (University Core Curriculum) [IAI Course: C1 901] The second course in the two-course sequence of composition courses required of all students in the University. Using culturally diverse reading materials, the course focuses on the kinds of writing students will do in the University and in the world outside the University. The emphasis is on helping students understand the purpose of research, develop methods of research (using both primary and secondary sources), and report their findings in the appropriate form. Prerequisite: English 101 or equivalent with a minimum grade of C or better.

119-3 Introduction to Creative Writing. Practice in writing poetry and fiction. Prerequisite: 102.

120-3 Advanced Freshman Composition. (University Core Curriculum) [IAI Course: C1 901] This course fulfills the Foundation Skills composition requirement. Prerequisite: top ten percent of the English section of ACT or the qualifying score on the CLEP test. Students will write critical essays on important books in the following categories: autobiography; politics; fiction; eyewitness reporting; and an intellectual discipline such as philosophy or science.

121-3 The Western Literary Tradition. (University Core Curriculum) [IAI Course: H3 900] The course offers a critical introduction to some of the most influential and representative work in the Western literary tradition. Emphasis is on the interconnections between literature and the philosophical and social thought that has helped to shape Western culture.

201-3 Introduction to Drama. [IAI Course: H3 902] Students will read and discuss plays of different types and periods. Prerequisite: 101 and 102; or 120; or equivalent.

202-3 Introduction to Poetry. [IAI Course: H3 903] Students will read and discuss poems of different types and periods. Prerequisite: 101 and 102; or 120; or equivalent.

203-3 Film as Literary Art. (University Core Curriculum) [IAI Course: F2 905] This course proposes to examine the influential role literature has on the cinematic tradition both in the past and present. It intends to emphasize the artistic and visual debt cinema owes to literature by concentrating on major achievements and analyzing them accordingly.

204-3 Literary Perspective on the Modern World. (University Core Curriculum) [IAI Course: H3 900] This course introduces the literature of the twentieth century using representative works from the beginning through the close of the century. Course material may be drawn from fiction, verse, and drama, as well as including examples from supporting media (film, performance). Course may be taken as a sequence to English 121, "The Western Literary Tradition", but 121 is not a prerequisite for this course.

205-3 The American Mosaic in Literature. (University Core Curriculum) [IAI Course: H3 910D] The course offers a reading and analysis of narratives of cross-cultural contact through representative topics: the first encounters between native Americans and Europeans; captivity, slavery and escape; immigration and city life; and cultures and families in transition. Emphasis is upon the various fictional and non-fictional literary forms in which the American pluralistic experience has been expressed.

209-3 Introduction to the Forms of Literature. [IAI Course: H3 900] Poetry, drama, and fiction. Statement and illustration of the techniques of the three genres over the range of American and English literature. Prerequisite: 101 and 102; or 120; or equivalent.

210-3 Introduction to Fiction. [IAI Course: H3 901] Students will read and discuss a variety of American and European short stories and novels. Prerequisite: 101 and 102; or 120; or equivalent.

225-3 Women in Literature. (Same as Women's Studies 225.) [IAI Course: H3 911D] Examines the ways in which women are portrayed in literature, especially in twentieth-century novels, drama, short fiction, and poetry written by women. Prerequisite: 102; or 120.

290-3 Intermediate Expository Writing. Designed for any University student, to improve writing skills beyond freshman composition. Based on individual needs and areas of specialization. Prerequisite: 101 and 102; or 120; or equivalent.

291-3 Intermediate Technical Writing. An intermediate course in technical and professional writing for sophomores, juniors, and seniors. Intended for students preparing for careers in applied technology, science, agriculture, business, and other fields where practical writing is a part of the daily routine. Prerequisite: 101 and 102; or 120; or equivalent.

293-3 to 9 (3 per topic) Special Topics in Literature and Language. Topics vary and are announced in advance. Both students and faculty suggest ideas. May be repeated as the topic varies. Prerequisite: departmental approval.

300-3 Introduction to Language Analysis. Nature of language and linguistic inquiry. Dialectology, usage, and chief grammatical descriptions of present day American English. Required of teacher training candidates. Prerequisite: 102 or 120 or equivalent.

301-3 Introduction to Literary Analysis. Intensive reading and writing, designed to acquaint students with basic terms, concepts and discourse of literary analysis. Satisfies CoLA Writing-Across-the-Curriculum requirement for English majors. Restricted to English majors, English minors and Elementary Education majors. Prerequisite: 102 or 120 or equivalent.

302A-3 Literary History of England, Beowulf to 1800. Social, historical, and intellectual backgrounds of English literature with selected readings from each period from Beowulf to 1800. Prerequisite: 102 or 120 or equivalent.

302B-3 Literary History of England, 1800 to Present. Social, historical, and intellectual backgrounds of English literature with selected readings from each period from 1800 to the present. Prerequisite: 102 or 120 or equivalent.

308I-3 Interdisciplinary Studies in Literature. (University Core Curriculum) The course offers seminars in the major works that have shaped our understanding of the modern world through interdisciplinary awareness and study. Seminar topics include Studies in Modernism; Irish Studies; The Politics of Empire; and Literary Studies of Film; Evil and the God of Love. Some seminar sections may require the viewing of films outside the regular class hours. The topics will be offered on a rotational basis.

309A-3 American Literature Before 1865. A survey of American literature from the beginning to the Civil War. Prerequisite: 102 or 120 or equivalent.

309B-3 American Literature Since 1865. A survey of American literature from the Civil War to the present. Prerequisite: 102 or 120 or equivalent.

325-3 Black American Writers. (Same as Black American Studies 399.) [IAI Course: H3 910D] Poetry, drama, and fiction by Black American writers. Prerequisite: 101 and 102; or 120; or equivalent.

332-3 Folktales and Mythology. A survey of non-classical mythology and folktales, emphasizing its medieval and modern aspects as well as the use of folklore in major literary works. Readings will cover Norse, Celtic, and Middle Eastern mythology, their use by English and American writers, such as Tennyson, Irving, and Hawthorne and the popular folk-ballad. Students are encouraged to explore other aspects of world folklore in their independent research papers. Prerequisite: 102 or 120 or equivalent.

333-3 The Bible as Literature. To introduce students to types of literature in the Bible while familiarizing them with Biblical texts. Prerequisite: 102 or 120 or equivalent.

335-3 The Short Story. Reading and discussion of short stories by American and European authors. Prerequisite: 101 and 102; or 120; or equivalent.

351-3 Forms of Fiction. A study of fictional forms with special concentration on the most significant contemporary fiction including selected readings from current periodicals. This course is taught by a publishing fiction writer and designed for student fiction writers. Prerequisite: 281 or consent of instructor.

352-3 Forms of Poetry. A study of poetic forms with special concentration on the most significant contemporary poetry, including selected readings from current periodicals. This course is taught by a publishing poet and designed for student poets. Prerequisite: 282 or consent of instructor.

365-3 Shakespeare. Reading and discussion of the major plays. Prerequisite: 101 and 102; or 120; or equivalent.

381A-3 Creative Writing: Beginning Fiction. Introduction to basic techniques of writing creative prose with emphasis on characterization, plot, and narrative devices. Study and application of various methods of short story writing. Exercises. Critiques. Prerequisite: 102 or 120; or consent of instructor.

381B-3 Creative Writing: Intermediate Fiction. Emphasis on the long short story and novella with exercises and study oriented to more sustained forms of prose than the short story. Theories and techniques of extended fictional forms treated. Critiques. Prerequisite: 351, 381a or consent of instructor.

382A-3 Creative Writing: Beginning Poetry. Introduction to basic theories and techniques of poetry writing with emphasis on metrics, forms, and poetic stanzas. Study and application of each of these general aspects of writing poetry. Exercises. Critiques. Prerequisite: 102 or 120; or consent of instructor.

382B-3 Creative Writing: Intermediate Poetry. Concentration on modern forms and theories of poetry. Writing assignments and exercises in the application of various poetic techniques, primarily 20th century American. Critiques. Prerequisite: 352, 382a or consent of instructor.

384-3 Creative Writing: Introduction to Literary Nonfiction. A survey of the major forms of literary nonfiction (biography, autobiography, popular science, the essay, literary journalism and travel narratives) and an introduction to the stylistic and rhetorical aspects of those forms through study and practice. Prerequisite: 102 or 120; or consent of instructor.

390-3 Advanced Composition. Expository writing. Prerequisite: C average in 120; or C average in 101 and 102; or equivalent. Open to English majors and minors or with consent of department.

391-3 Precision in Reading and Writing. To improve the student's ability to read and write with precision and clarity, depending on reading complex material (requiring no particular background for comprehension) and on writing precis of it. Prerequisite: grade of B in 102; or C in 120; or C in English 290.

393-3 to 9 (3 per topic) Special Topics in Literature and Language. Topics vary and are announced in advance. Both students and faculty suggest ideas. May be repeated as the topic varies. Prerequisite: departmental approval.

401-3 Modern English Grammars. Survey of the structure of English, with emphasis on phonetics and phonology, morphology, syntax, semantics, pragmatics, grammar instruction, stylistics and language variation. Specifically designed to meet the needs of prospective teachers of composition and language arts at the secondary and college levels.

402-3 Old English Language and Literature. Introduction to the language, literature and culture of Anglo-Saxon England, with emphasis on Old English heroic and elegiac poetry, exclusive of *Beowulf*.

403-3 History of the English Language. The development of the language from its Indo-European roots through Early Modern English and selected American dialects. Emphasis on the geographical, historical and cultural causes of linguistic change.

404A-3 Medieval Allegory, History and Romance. Three popular Medieval genres as represented by major texts of the early through the late Middle Ages, exclusive of Chaucer, including works such as *Dream of the Rood*, *Sir Orfeo*, *Sir Gawain and the Green Knight*, *Piers Plowman*, *The Book of Margery Kempe* and selections from *Lawman's Brut* and Malory's *Le Morte Darthur*.

404B-3 Medieval Lyric, Ballad and Drama. Lyric, ballad and drama from the early through the late Middle Ages, including translations of the Old English *Wife's Lament*, *Husband's Message*, *Wanderer*, and *Seafarer*, as well as Middle English religious and love lyrics and the Robin Hood ballads, with special emphasis on the great plays of the fifteenth century and the rebirth of drama in the Western World.

405-3 Middle English Literature: Chaucer. Major works including *Troilus and Criseyde* and selections from *The Canterbury Tales*.

412-3 English Non-Dramatic Literature: The Renaissance. Topics varies, but usually lyric poets, especially 17th-century metaphysical poets such as Donne, Herbert and Marvell.

413-3 English Non-Dramatic Literature: The Restoration and Earlier Eighteenth Century. Major works of Dryden, Pope, and Swift, and the non-dramatic specialties of Behn, Addison and Steele.

414-3 English Non-Dramatic Literature: The Later Eighteenth Century. Major poets from Thomson to Blake, and major prose writers, with emphasis on Johnson, Boswell and their circle.

421-3 English Romantic Literature. Wordsworth, Coleridge, Byron, Shelley, Keats and other writers of the era.

422-3 Victorian Poetry. Tennyson, Browning, Arnold and other poets in England.

423-3 Modern British Poetry. Major modernists (Yeats, Eliot, Pound); with selected works of Auden, Owen, Thomas, Heaney and others.

425-3 Modern Continental Poetry. Representative poems by major 20th century poets of France, Italy, Germany, Spain, Russia, and Greece.

426-3 American Poetry to 1900. Trends and techniques in American poetry to 1900.

427-3 American Poetry from 1900 to the Present. The more important poets since 1900.

433-3 Religion and Literature. Introduce students to the study of religious meaning as it is found in literature.

436-3 Major American Writers. Significant writers from the Puritans to the present. May be repeated only if topic varies and with consent of the department.

437-3 American Literature to 1800. Representative works and authors from the period of exploration and settlement to the Federal period.

445-3 Cultural Backgrounds of Western Literature. A study of ancient Greek and Roman literature, Dante's *Divine Comedy*, and Goethe's *Faust*, as to literary type and historical influence on later Western writers.

446-3 Caribbean Literature. Representative texts from drama, poetry, and fiction that have shaped black diaspora aesthetics in the Caribbean, with special reference to black literature of the North American continent.

448-3 Irish Literature. An introductory survey in historical context of the literature of Ireland, including Gaelic literature in translation from the early Christian era (400 AD) to the late eighteenth century; the first two centuries (the eighteenth and nineteenth) of Irish literature in English (Swift, Goldsmith, Burke, Edge-

worth, Carleton, Thomas Moore, Mangan, Allingham); and the Celtic Twilight and the Irish Literary Renaissance (c. 1890-1921: Hyde, Gregory, Stephens, O'Kelly, George Moore, Synge, Yeats, Joyce).

451-3 Eighteenth Century English Fiction. The novel from Defoe to Jane Austen. Including works by Fielding, Richardson and others.

452-3 Nineteenth Century English Fiction. The Victorian novel: from 1830, including works by the Brontës, Dickens, George Eliot, Thackeray and others.

453-3 Modern British Fiction. Major writers (including Conrad, Joyce, Woolf and Lawrence), with selected fiction from Mid-Century and later.

455-3 Modern Continental Fiction. Selected major works of Europe and authors such as Mann, Silone, Camus, Kafka, Malraux, Hesse.

458-3 American Fiction to 1900. Trends and techniques in the American novel and short story.

459A-3 American Prose from 1900 to Mid-Century: The Modern Age. Representative narratives from the turn of the century to the post-World War II period.

459B-3 American Prose from Mid-Century to the Present: The Postmodern Age. Representative narratives from the post-World War II period to the present.

460-3 Elizabethan and Jacobean Drama. Elizabethan drama excluding Shakespeare: such Elizabethan playwrights as Greene, Peele, Marlowe, Dekker; and Jacobean drama: such Jacobean and Caroline playwrights as Jonson, Webster, Marston, Middleton, Beaumont and Fletcher, Massinger, Ford, Shirley.

462-3 English Restoration and 18th Century Drama. After 1660, representative types of plays from Dryden to Sheridan.

464-3 Modern British Drama. Major writers (including Shaw and Synge), with selected works of later dramatists such as Churchill and Bond.

465-3 Modern Continental Drama. The continental drama of Europe since 1870; representative plays of Scandinavia, Russia, Germany, France, Italy, Spain and Portugal.

468-3 American Drama. The rise of drama, with emphasis on the 20th century.

469-3 Contemporary Topics in Drama. Varying topics on cross-national and cross-cultural 20th-century drama with focus on theoretical issues.

471-3 Shakespeare: The Early Plays, Histories, and Comedies. Such plays as *A Midsummer Night's Dream*, *The Merchant of Venice*, *The Taming of the Shrew*, *Henry IV Part I*, *Henry V* and *Much Ado about Nothing*.

472-3 Shakespeare: The Major Tragedies, Dark Comedies, and Romances. Such plays as *Hamlet*, *Macbeth*, *Othello*, *King Lear*, *Measure for Measure*, *The Winter's Tale* and *The Tempest*.

473-3 Milton. A reading of a selection of the minor poems, of *Paradise Lost*, *Paradise Regained*, *Samson Agonistes*, and the major treatises.

481-3 Young Adult Literature in a Multicultural Society. Introduction to the evaluation of literary materials for junior and senior high school, with emphasis on critical approaches and the multicultural features of schools and society. Prerequisite: enrollment in English degree program or consent of department.

485-3 Problems in Teaching Composition, Language, Literature and Reading in High School. Must be taken the semester directly before student teaching. Prerequisite: Majoring in student teaching option.

490-3 Expository Writing. Advanced composition with emphasis on a variety of rhetorical strategies. Prerequisite: English 290, 390 or equivalent.

491-3 Technical Writing. Introduction to technical communication; open to entire university community. Training also provided for students interested in teaching technical writing. Prerequisite: English 290, 291, 390, 391 or equivalent.

492A-3 Creative Writing Seminar: Fiction. Instruction in advanced writing of fiction. A directed written project in fiction will be submitted at the end of the semester. A collection of short stories or novel of what instructors consider to be acceptable quality will fulfill the seminar requirement. Prerequisite: consent of department.

492B-3 Creative Writing Seminar: Poetry. Instruction in advanced writing of poetry. A directed written project in poetry will be submitted at the end of the semester. A collection of poems of what instructors consider to be acceptable quality will fulfill the seminar requirement. Prerequisite: consent of department.

492C-3 Creative Writing Seminar: Literary Nonfiction. Instruction in advanced writing of literary nonfiction prose. A directed written project in literary nonfiction prose will be submitted at the end of the semester. A collection of nonfiction work of what instructors consider to be acceptable quality will fulfill the seminar requirement. Prerequisite: consent of department.

493-3 to 9 (3 per topic) Special Topics in Literature and Language. Topics vary and are announced in advance; both students and faculty suggest ideas. May be repeated as the topic varies.

494-3 Cultural Analysis and Cinema. Cultural Studies exploring various and selected topics in European and American Cinema. A \$10 screening fee is required.

495-3 A Survey of Literary Criticism. Introduction to the history of criticism and major recent schools of literary criticism and theory.

498-3 to 9 Internship. For English majors only. Student may take up to nine semester hours to receive credit for internships that may be available at SIU Press, Special Collections, University Museum, Coal Center, Writing Center, Computer Lab and other faculty or unit-sponsored projects. Prerequisite: enrollment in English degree program.

499-1 to 6 (1 to 3, 1 to 3) Readings in Literature and Language. For English majors only. Prior written departmental approval required. May be repeated as the topic varies, up to the maximum of six semester hours. Prerequisite: enrollment in English degree program or consent of department.

English Faculty

- Anthony, David J.**, Assistant Professor, Ph.D., University of Michigan, 1998.
- Appleby, Bruce C.**, Professor, *Emeritus*, Ph.D., University of Iowa, 1967.
- Bennett, Paula**, Professor, Ph.D., Columbia University, 1970.
- Blakesley, David**, Associate Professor, Ph.D., University of Southern California, 1989.
- Brand, Clinton**, Assistant Professor, Ph.D., Vanderbilt University, 1994.
- Brunner, Edward J.**, Professor, Ph.D., University of Iowa, 1974.
- Cogie, Jane**, Assistant Professor, Ph.D., University of Iowa, 1984.
- Collins, K. K.**, Associate Professor, Ph.D., Vanderbilt University, 1976.
- Cruz, Ricardo Cortez**, Associate Professor, M.S., Illinois State University, 1991.
- Dively, Ronda**, Assistant Professor, D.A., Illinois State University, 1994.
- Dodd, Diana L.**, Assistant Professor, *Emerita*, M.A., Southern Illinois University, 1954.
- Donow, Herbert S.**, Professor, *Emeritus*, Ph.D., University of Iowa, 1966.
- Fanning, Charles**, Professor, Ph.D., University of Pennsylvania, 1972.
- Fox, Robert Elliot**, Professor, Ph.D., SUNY at Buffalo, 1976.
- Friend, Jewell A.**, Associate Professor, *Emerita*, Ph.D., Southern Illinois University, 1970.
- Geyh, Paula E.**, Assistant Professor, Ph.D., University of Pennsylvania, 1994.
- Goodin, George V.**, Associate Professor, *Emeritus*, Ph.D., University of Illinois, 1962.
- Griffin, Robert P.**, Associate Professor, *Emeritus*, Ph.D., University of Connecticut, 1965.
- Haruf, Kent A.**, Associate Professor, M.F.A., University of Iowa, 1973.
- Hatton, Thomas J.**, Associate Professor, *Emeritus*, Ph.D., University of Nebraska, 1966.
- Hawes, Clement C.**, Associate Professor, Ph.D., Yale University, 1986.
- Hillegas, Mark**, Professor, *Emeritus*, Ph.D., Columbia University, 1957.
- Hilliard, Lewis J.**, Assistant Professor, *Emeritus*, M.S. in Ed., Southern Illinois University, 1952.
- Howell, John M.**, Professor Ph.D., Tulane University, 1963.
- Humphries, Michael L.**, Associate Professor, Ph.D., The Claremont Graduate School, 1990.
- Hurley, Paul J.**, Professor, *Emeritus*, Ph.D., Duke University, 1962.
- Jones, Rodney G.**, Professor, M.F.A., University of North Carolina at Greensboro, 1973.
- Joseph, Allison**, Associate Professor, M.F.A., Indiana University, 1992.
- Klaver, Elizabeth T.**, Associate Professor, Ph.D., University of California at Riverside, 1990.
- Knopp, Lisa**, Assistant Professor, Ph.D., University of Nebraska-Lincoln, 1993.
- Kvernes, David M.**, Assistant Professor, *Emeritus*, Ph.D., University of Minnesota, 1967.
- Lamb, Mary E.**, Professor, Ph.D., Columbia University, 1976.
- Lang, Susan M.**, Assistant Professor, Ph.D., Emory University, 1992.
- Lawson, Richard A.**, Professor, *Emeritus*, Ph.D., Tulane University, 1966.
- Light, James F.**, Professor, *Emeritus*, Ph.D., Syracuse University, 1953.
- Little, Judy Ruth**, Professor, *Emerita*, Ph.D., University of Nebraska, 1969.
- Lordan, E. Beth**, Associate Professor, M.F.A., Cornell University, 1987.
- Martin, Joan Foley**, Assistant Professor, *Emerita*, M.A., Southern Illinois University, 1959.
- McClure, Lisa**, Associate Professor, D.A., University of Michigan, 1988.
- McEathron, Scott**, Assistant Professor, Ph.D., Duke University, 1993.
- McNichols, Edward L.**, Assistant Professor, *Emeritus*, M.A., University of Detroit, 1958.
- Mitchell, Betty Lou**, Associate Professor, *Emerita*, M.A., Southern Illinois University, 1951.
- Molino, Michael R.**, Assistant Professor, Ph.D., Marquette University, 1992.
- Morey, A. J.**, Professor, Ph.D., University of Southern California, 1979.
- Moss, Sidney P.**, Professor, *Emeritus*, Ph.D., University of Illinois, 1954.
- Nelms, Ralph Gerald**, Associate Professor, and *Acting Chair*, Ph.D., Ohio State University, 1990.
- Perillo, Lucia Maria**, Associate Professor, M.A., Syracuse University, 1986.
- Peterson, Richard F.**, Professor, Ph.D., Kent State University, 1969.
- Piper, Henry Dan**, Professor, *Emeritus*, Ph.D., University of Pennsylvania, 1950.
- Rainbow, R. S.**, Associate Professor, *Emeritus*, Ph.D., University of Chicago, 1950.
- Riedinger, Anita R.**, Associate Professor, Ph.D., New York University, 1985.
- Rudnick, Hans H.**, Professor, Ph.D., University of Freiburg, Germany, 1966.
- Schönhorn, Manuel S.**, Professor, *Emeritus*, Ph.D., University of Pennsylvania, 1963.
- Simeone, William E.**, Professor, *Emeritus*, Ph.D., University of Pennsylvania, 1950.
- Simon, Mary C.**, Instructor, *Emerita*, A.M., University of Illinois, 1940.
- Stibitz, E. Earle**, Professor, *Emeritus*, Ph.D., University of Michigan, 1951.
- Vieth, David Muench**, Professor, *Emeritus*, Ph.D., Yale University, 1953.
- Webb, Howard W., Jr.**, Professor, *Emeritus*, Ph.D., University of Iowa, 1953.
- Weshinskey, Roy K.**, Assistant Professor, *Emeritus*, M.A., Southern Illinois University, 1950.

Williams, Tony, Associate Professor, Ph.D.,
University of Manchester, 1974.

Zimra, Clarisse, Associate Professor, Ph.D.,
University of Washington, 1974.

Environmental Studies (Minor)

The Environmental Studies minor at Southern Illinois University allows students to concentrate core and elective courses from a variety of colleges in a focused, integrated, interdisciplinary study of the environment. The goals of the minor are: (1) to provide students with a basic understanding of the complex environmental issues and opportunities faced by society; (2) to develop and refine student's environmental values from an overview of these issues; and (3) prepare students to translate these values into practical actions in a broad spectrum of environmental or related career fields, or simply as better informed individuals. The Environmental Studies minor involves the cooperation and contribution of faculty members from a broad range of disciplines and departments.

Students may enroll in the Environmental Studies minor after entering a major program in any participating academic department at SIUC with the approval of their academic adviser and the Environmental Studies coordinator. A minor consists of three core courses and a minimum of six hours chosen from among five general groups. For further information contact the Environmental Studies coordinator at 453-4143, 453-4115 or visit the office in Life Science II, Room 354A.

Finance (Department, Major, Courses)

The financial implications of decisions in both business and government are daily becoming more complex. Within the firm, financial considerations permeate the concentrations of research, engineering, production, and marketing. Within governmental activities, sophisticated financial techniques are becoming increasingly important. The financial executive thus takes a key role in the successful management of both business and governmental operations.

The finance curriculum offers two areas of specialization to meet the varied interests of students: (1) financial management and (2) financial institutions. The financial management program provides the background for a career in the financial operations of business firms and public institutions. The financial institutions specialization is designed for those interested in the operations of financial intermediaries and financial markets. Certain courses may require the purchase of additional materials.

Finance majors must maintain a cumulative 2.00 grade point average in Finance prefix (FIN) courses taken at SIUC in addition to meeting all of the College of Business and Administration's retention and graduation requirements. Finance majors who fail for two consecutive semesters to maintain the 2.00 cumulative grade point average in Finance prefix courses will be required to drop Finance as their major.

Bachelor of Science Degree, College of Business and Administration

University Core Curriculum Requirements	41
Professional Business Core (See Chapter 4)	41
Requirements for Major in Finance	21
Finance 331, 341, 361	9
Specialization (choose one)	12
Financial Institutions	
Finance 449; Select three: 320, 432, 433, 462	
or	
Finance 320; Finance 432 or 433; Select two: 321, 322, 323, 480	

Financial Management

Finance 380 or upper division accounting course

Select three: 432, 433, 462, 463, 464, 469

Approved Electives 17

To include one international business course.

Total 120

Finance Suggested Curricular Guide

FIRST YEAR		FALL	SPRING	SECOND YEAR		FALL	SPRING
ENGL 101, 102.....	3	3		ACCT 220, 230.....	3	3	
UCC Science.....	3	3		ECON 241, 240.....	3	3	
UCC Fine Arts.....	3	-		ACCT/MGMT 208.....	3	-	
PSYC 102.....	-	3		CS 200b or IMS 229.....	-	3	
UCC Humanities.....	3	-		UCC Humanities.....	3	-	
UCC Human Health.....	-	2		MGMT 202.....	-	3	
MATH 139, 140.....	3	4		SPCM 101.....	3	-	
				UCC Integrative Studies.....	-	3	
Total.....	15	15		Total.....	15	15	
THIRD YEAR		FALL	SPRING	FOURTH YEAR		FALL	SPRING
MGMT 304, 318.....	3	3		FIN 270 ²	3	-	
FIN 330, 331.....	3	3		MGMT 481.....	-	3	
FIN 341, 361.....	-	6		FIN ³	6	6	
MKTG 304.....	3	-		Approved Elective ¹	6	3	
UCC Integrative Studies.....	3	-		International Business.....	-	3	
Approved Elective ¹	3	2					
BUS 302.....	-	1					
Total.....	15	15		Total.....	15	15	

¹120 semester hours are required for graduation. Approved electives should be selected in consultation with academic advisor to meet this requirement.

²The combination of Finance 280 (Business Law I) and Finance 380 (Business Law II) may be substituted for Finance 270 and is highly recommended for Accounting majors.

³Major option, major specialization or secondary concentration.

Minor

A minor in Finance consists of a minimum of 12 semester hours, including Finance 330, 331, 341 and 361. All prerequisites for these classes must also be satisfied. An advisor within the College of Business and Administration must be consulted before selecting this field as a minor.

Courses (FIN)

200-3 Personal Finance. An introduction to the problems of personal financial asset management, including income and expense budgeting. Emphasis also placed on consumer credit, insurance, investments, home ownership, and taxation. Will not count toward a major in finance.

270-3 The Legal and Social Environment of Business. An examination of the legal, social, and political forces that influence business and businessmen. Particular attention to the role of law as an agency of social control in the modern business society. Prerequisite: sophomore standing.

280-3 Business Law I. Legal problems arising from situations involving contracts and agency and business organizations. Not pass/fail for business majors.

310-3 Insurance. Fundamentals of insurance and risk management including a study of selected insurance contracts and alternative methods of controlling risk exposures. Prerequisite: junior standing.

320-3 Real Estate. Problems of real estate ownership, management, financing, and development. Prerequisite: junior standing.

321-3 Real Estate Finance. A study of the instruments, techniques, and institutions of real estate finance; sources of and methods for obtaining funds for real estate investments; mortgage risk analyses. Prerequisite: 320 or consent of instructor and junior standing.

322-3 Real Estate Appraisal. The techniques and art of real estate valuation using market comparison, cost, and income approaches. Includes appraisal principles, procedures, and applications. Prerequisite: 320 or consent of instructor and junior standing.

323-3 Real Estate Law. A survey of legal principles applicable to real property, including the following: conveyances, titles, land descriptions, rights and duties of ownership, and the law of real estate brokerage. Prerequisite: 320 or consent of instructor and junior standing.

330-3 Introduction to Finance. Study of issuance, distribution, and purchase of financial claims including the topics of financial management, financial markets, and financial investments. Prerequisite: Accounting 230, Economics 240 and junior standing.

- 331-3 Investments.** Survey of the problems and procedures of investment management; types of investment risks; investment problems of the individual as well as the corporation. Prerequisite: 330 with a grade of C or better; junior standing and must be business (not pre-business) major or consent of department.
- 341-3 Financial Markets.** Operations of capital markets. Sources and uses of funds of financial institutions. Prerequisite: 330 or concurrent enrollment.
- 350-3 Small Business Financing.** Financing problems involved in raising venture capital, debt type funds, expansion funds, and government sponsored funding. Budgeting, working capital management, and fixed asset planning are covered. Prerequisite: Accounting 230, Economics 240 and junior standing.
- 361-3 Management of Business Finance.** The principal problems of managing the financial operations of an enterprise. Emphasis upon analysis and solutions of problems pertaining to policy decisions. Prerequisite: 330 with a grade of C or better and Management 208, business major (not prebusiness).
- 380-3 Business Law II.** Legal problems arising from situations involving sales, commercial paper, secured transactions, suretyship, and bankruptcy. Prerequisite: junior standing.
- 432-3 Options and Futures Markets.** Study of modern concepts and issues in financial options and futures markets. Emphasis on risk management in financial institutions, and applications in corporate finance and funds management. Prerequisite: 331 with a grade of C or better and 361 (361 may be taken concurrently).
- 433-3 Portfolio Theory and Management.** Examination of modern concepts relating to management of security portfolios. Topics include security analysis, Markowitz Portfolio Theory, efficient market hypothesis, portfolio performance measurement, risk, and portfolio construction. Prerequisite: 331 with a grade of C or better, 361 (361 may be taken concurrently).
- 449-3 Management of Financial Institutions.** Principal policies and problems which confront top management. Emphasis on liquidity, loans, investments, deposits, capital funds, financial statements, organization structure, operations, personnel, cost analysis, and public relations. Not for graduate credit. Prerequisite: 330 and 341 with a grade of C or better.
- 462-3 Working Capital Management.** Short-term budgeting and forecasting techniques used in business; alternative approaches to working capital management including consideration of certainty, risk and uncertainty; theory and applications of management of cash, marketable securities, accounts receivables, inventory, banking relationships, and short-term sources of funds. Prerequisite: 361 or concurrent enrollment.
- 463-3 Forecasting and Capital Budgeting.** Long-term forecasting techniques used in business; alternative approaches to capital structure decisions, cost of capital measurement; and performance measurement for investment decisions including mergers and leasing; explicit consideration of certainty, risk, and uncertainty in investment analysis; theory and applications in private and public sectors. Prerequisite: 361 or concurrent enrollment.
- 464-3 International Financial Management.** Financial behavior of multinational firms. Emphasis on the modification of conventional financial models to incorporate uniquely foreign variables. Prerequisite: 361 or concurrent enrollment.
- 469-3 Managerial Financial Policy.** Development of financial strategies and policies based on an evaluation of alternative approaches. Emphasis upon application of financial concepts and techniques to real-life situations. Not for graduate credit. Prerequisite: 361.
- 480-3 Problems in Labor Law.** Social, economic, and legal evaluations of recent labor problems, court decisions, and legislation. Concern is on long-run legislative impact on manpower planning, dispute settlement, and utilization of employment resources.
- 491-1 to 6 Readings in Finance.** Readings in classical and current writing on selected topics in various areas in the field of finance not available through regularly scheduled courses. Not for graduate credit. Prerequisite: consent of department chair and outstanding record in finance and must be a business (not prebusiness) major or consent of department. Mandatory Pass/Fail.
- 495-3 Internship in Finance.** Designed to provide an opportunity to relate certain types of work experience to the student's academic program and objectives. Approved internship assignments with cooperating companies in the fields of finance are coordinated by the faculty member. Not repeatable for credit. Not for graduate credit. Prerequisite: consent of department chair and outstanding record in finance and must be a business (not prebusiness) major or consent of department. Mandatory Pass/Fail.

Finance Faculty

Cornett, Marcia M., Professor and Associate Dean, Ph.D., Indiana University, 1983.

Davids, Lewis E., Professor, *Emeritus*, Ph.D., New York University, 1949.

Davidson, Wallace N., III, Professor, Ph.D., Ohio State University, 1982.

Elsaid, Hussein H., Professor and Chair, Ph.D., University of Illinois, 1968.

Mathur, Iqbal, Professor, Ph.D., University of Cincinnati, 1974.

Musumeci, James, Assistant Professor, Ph.D., University of Texas at Austin, 1987.

Peterson, Mark A., Assistant Professor, Ph.D., Pennsylvania State University, 1996.

Szakmary, Andrew C., Associate Professor, Ph.D., University of New Orleans, 1989.

Tyler, R. Stanley, Associate Professor, *Emeritus*, J.D., University of Illinois, 1952.

Vaughn, Donald E., Professor, *Emeritus*, Ph.D., University of Texas, 1961.

Waters, Gola E., Professor, J.D., University of Iowa, 1957, Ph.D., Southern Illinois University, 1970.

Fire Science Management (Major, Courses)

The Bachelor of Science in Fire Science Management currently is offered only at off-campus locations and provides those with a fire science-related technical background with a two-year, upper division program of study that enhances the successful graduate's pursuit of a career in the fire service industry. The program is designed to provide practical course work in areas of management and supervision for fire service professionals. Admission to the program requires prior completion of a fire science-related Associate of Applied Science (AAS) degree, prior formal training equivalent to a fire science related AAS, prior fire science-related licensure or certification, or prior employment in a fire science-related field.

The Capstone Option is available for eligible students who meet the Capstone criteria outlined in Chapter 3. Those seeking the Capstone Option must complete the application and must meet all eligibility criteria, including the fire science-related AAS degree with a 2.25 gpa or better, no later than the end of their first semester in the bachelor degree program.

The Bachelor of Science in Fire Science Management is an ideal program of study for fire service professionals who have a prior, fire service-related AAS or its equivalent or who have extensive work experience in the fire service industry. Successful graduates are prepared for career enhancing opportunities that include fire service related management and supervisory positions, the insurance industry, the fire equipment manufacturing industry and other related fields.

For additional information about this major, contact the College of Applied Sciences and Arts' Office of Off-Campus Academic Programs at (618) 536-6609 or visit our homepage at <www.asa-ocap.siu.edu>.

Bachelor of Science Degree, College of Applied Sciences and Arts

<i>University Core Curriculum Requirements</i>	41
(Capstone Core Curriculum Requirements	30)
<i>Requirements for Major in Fire Science Management</i>	48
Core Requirements: Fire Science Management 332, 421, 425 and Advanced Technical Studies 416	12
Twenty-four hours from Fire Science Management 365, 383, 387, 388, 390, 398, 402 and 423	24
Twelve hours selected from Fire Science Management 301, 319, 350, 401 and 450	12
<i>Approved Career Electives</i> (Formal course work or its equivalent that is Fire Science-related and technical, managerial or supervisory in Nature)	31
(Capstone.....	42)
Total	120

Fire Science Management Suggested Curricular Guide

THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
FSM 332, 383.....	3	3	FSM 390, 423	3	
FSM 365, 387.....	3	3	FSM 398, 421	3	
ATS 416	3	-	FSM 402, 425	3	
FSM 301, 388.....	3	3	FSM 319 or 401	3	
FSM 319 or 350	-	3	FSM 450	-	
Approved Electives	3	3	Approved Electives	3	
Total	15	15	Total	15	1

Courses (FSM)

258-1 to 30 Fire Science Work Experience. Credit granted for prior job skills, management-worker relations and supervisory experience while employed in the fire science industry. Credit will be established by departmental evaluation.

259-1 to 60 Fire Science Occupational Education. A designation for credit granted for past occupational educational experiences related to fire science management. Credit will be established by departmental evaluation.

301-3 Introduction to Fire Science Management Research. An introduction to library resources, electronic media resources and formal academic writing styles common to fire science management research. Introduction to basic theories, concepts and practices pertinent to fire science management. May be independent study. Prerequisite: fire science management major or consent of department.

319-1 to 15 Occupational Internship. Each student will be assigned to a University approved organization engaged in activities related to the student's academic program and career objectives. The student will perform duties and services as assigned by the preceptor and coordinator. Reports and assignments are required to be completed by the student. Hours and credits to be individually arranged. Mandatory Pass/Fail.

332-3 Labor-Management Problems. The student will gain a general understanding of the economic situation of which labor/management problems represent a subset. Students will develop a perspective on the evolution of labor relations in the United States economy and how the interaction of labor and management differs throughout the world. The collective bargaining section introduces the student to the techniques of bargaining used by labor and management in their ongoing interactions.

350-3 Readings in Fire Science Management. The use of written and electronic media resources relevant to fire science management and the development of a fire science management research bibliography. The use of bibliographic resources to produce written comparative or persuasive research reports. May be independent study. Prerequisite: 301 and fire science management major or consent of department.

365-3 Grant and Proposal Writing for the Fire Services. A comprehensive presentation of the availability of public and private funding in various technical areas and their availability to the fire services. How to apply for such funding, the approval process applied to applications, how grants are administered and which state and federal agencies, corporations and private foundations fund grants for the fire services will be included. Students will prepare a grant proposal that includes an objectives statement, a study methodology, work programs, work schedules and a program budget. Student proposals will be documented through the submission phase. Prerequisite: fire science management major or consent of department.

383-3 Data Interpretation. A course designed for students beginning their major program of study to examine data use in their respective professions. Emphasis will be placed upon an understanding of the basic principles and techniques involved with analysis, synthesis and utilization of data.

387-3 Fiscal Aspects of Fire Service. An introduction to the fiscal problems encountered in the administration of fire service facilities.

388-3 Legal Aspects of Fire Science Management. The student will learn basic law principles, identify sources of American laws, and recognize the structural framework of American law. Additionally, the student will be able to identify the principles of law which relate to management of fire protection services and areas of law which impact on the operations of fire service management, including applicable laws and ordinances (Fire Fighter Bill of Rights, et al), collective bargaining, and state/local civil service Fire/Police Commission provisions hearing protocols. Further, the student is able to effectively participate in the conduct of a mock hearing, following applicable protocols for such, in accordance with due process and legal requirements and effectively document and enforce such findings.

390-3 Governmental Aspects of the Fire Service. The role of subnational governments in the management of the fire services. The demographic and political environment in which the fire services operate. The duties, powers and obligations of governmental agencies relative to the operation of a fire department. Prerequisite: fire science management major or consent of department.

398-3 Risk Management in the Fire Service. This course, designed for the middle-level fire service manager, introduces the concept of risk management and examines its applicability in the fire service. Particular emphasis is placed on developing and implementing a fire service risk management program in both career and paid on-call departments.

401-3 Analysis of Trends in the Fire Services Industry. The identification and study of current economic, regulatory, or operational trends impacting the fire services industry. The use of both written and oral reports to present a critical analysis of selected topics. May be independent study. Not for graduate credit. Prerequisite: 350 and fire science management major or consent of department.

402-3 Current Issues in Fire Science Services. A review of the current problems affecting the fire service with particular emphasis on resource allocation, planning, and constraints. Not for graduate credit.

421-3 Professional Development. Introduces students to the various elements involved in obtaining a position in their chosen fields. Topics included are: personal inventories, placement services, employment agencies, interviewing techniques, resumes, letters of application, references and employment tests. Each student will develop a portfolio, including personal and professional information related to career goals. Not for graduate credit.

423-3 Master Planning for Community Fire Protection. The development and management of a community fire protection plan. Students will learn to organize, coordinate and implement a community fire protection master plan. Not for graduate credit. Prerequisite: fire science management major or consent of department.

425-3 Fire Service Management. The role of upper level fire service managers with a focus on the significant areas of fire department management. Emphasis is placed on an understanding of major issues facing fire service managers and the management theories, concepts and practices that apply to these issues. Not for graduate credit. Prerequisite: fire science management major or consent of department.

450-3 Management Problems in the Fire Services Industry. The identification and study of problems related to management within the fire services industry. The application of fire science management theories, concepts and practices to the identified management problems. The use of written and electronic media research

resources to produce a written problem solving report. May be independent study. Not for graduate credit. Prerequisite: 401 and fire science management major or consent of department.

Food and Nutrition (Major, Courses)

The food and nutrition program is a part of the Department of Animal Science, Food and Nutrition.

Students will be required to take field trips in those courses so designated with the expenses pro-rated for each student. Appropriate uniforms will be required of all students enrolling in those courses that involve preparation of food.

Bachelor of Science Degree, College of Agriculture

FOOD AND NUTRITION MAJOR – DIETETICS SPECIALIZATION

These courses give a strong scientific education to those interested in becoming registered dietitians. They meet the Commission on Accreditation Approval for Dietetics Education (CAADE) of The American Dietetic Association Standards of Education for Didactic Programs in Dietetics (DPD). Eligibility to write the registration examination to become a registered dietitian (RD) requires completion of academic (DPD) and supervised practice experience requirements. The supervised practice experience requirement is met by completing an accredited Dietetic Internship after graduation from a DPD program.

<i>University Core Curriculum Requirements</i>	41 ¹
<i>Requirement for Major in Food and Nutrition with Specialization in Dietetics</i>	72-77
Anthropology 104 or Sociology 108	(3)
Plant Biology 301i	(3)
Psychology 102, 323	6
Economics 113	(3)
Any Mathematics prefix course with the exception of 107, 114	(3)
Zoology 115 or 118	(3) + 1
Chemistry 140a, b	(3) + 5
Physiology 301, 310 or Allied Health Careers 141	4-9
Microbiology 301	4
Management 304	3
Educational Psychology 402 or Agribusiness Economics 318.....	3
Computer Science 212 or Information Management Systems 229	3
Food and Nutrition 100, 206, 215, 256, 320, 321, 360, 363, 373, 400, 410, 425, 470, 472, 480, 490	43
<i>Electives</i>	<u>2-7</u>
<i>Total</i>	120

¹The numbers in parentheses are counted as part of the 41-hour University Core Curriculum Requirement.

FOOD AND NUTRITION MAJOR – HOTEL, RESTAURANT AND TRAVEL ADMINISTRATION SPECIALIZATION

The Hotel, Restaurant and Travel Administration Specialization offers an undergraduate program as preparation for careers in hospitality management. The mission is to provide education and service activities with the goal of enabling students, professionals and the community to function in a changing global society. The specialization integrates other disciplines and addresses ongoing concerns and needs of the hospitality industry in its diverse environments. It is broad in scope and content. The specialization provides for theory development, experimentation and practice that fosters personal, social and intellectual pursuits for the enhancement of life-long learning.

University Core Curriculum Requirements	41 ¹
Requirements for Major in Food and Nutrition with Specialization in Hotel, Restaurant and Travel Administration	69
Psychology 102	(3)
Economics 113	(3)
Food and Nutrition 101	(2)
Any Mathematics prefix course with the exception of 107, 114 and 282	(3)
Accounting 220	3
Management 304	3
Marketing 304	3
Finance 270 or 280	3
Geography 103	3
Information Management Systems 229 or Computer Science 212	3
Educational Psychology 402 or Agribusiness Economics 318 or Mathematics 282	3
Psychology 322 or 323	3
Food and Nutrition 156, 202, 206, 302, 335, 360, 363, 371, 372, 373, 435, 460, 461, 473, 361 or Marketing 305	45
Approved Electives	10 ²
Total	120

¹The numbers in parentheses are counted as part of the 41-hour University Core Curriculum Requirement.
²Students must complete 10 hours of electives in areas pertinent to the HRTA specialization.

Courses (FN)

See also Animal Science for additional 400-level courses.

- 100-1 Introduction to the Profession of Dietetics.** Reviews the history of the profession of dietetics; analyzes the impact of past as well as current societal influences on present and future development in the field of dietetics.
- 101-2 Nutrition: Contemporary Health Issues.** (University Core Curriculum) This course integrates nutrition and promotion of health through prevention of disease and will answer questions found daily in the media regarding nutrition. Topics emphasized are functions of basic nutrients, impact of culture, gender, ethnicity, social environments and lifestyle on nutrition and health.
- 156-3 Fundamentals of Foods.** An introduction to the basic principles and techniques of food preparation. A charge of \$15 will be made for laboratory.
- 202-3 The Hospitality and Tourism Industries.** Introduction to the diverse aspects of the hospitality and tourism industries and the interrelationships between them. Historical development of the industries, trends, current issues and career opportunities will be examined.
- 206-2 Food Service Sanitation.** Basic sanitation principles and application in food service. Employee sanitation training, sanitation standards and safety regulations in the food service industry will be part of the course. Upon completion of the course, students will be eligible for the sanitation certificate national exam. Prerequisite: 156 or equivalent.
- 215-2 Introduction to Nutrition.** (Same as Animal Sciences 215.) An up-to-date study of basic principles of nutrition including classification of nutrients (physical and chemical properties) and their uses in order to provide the student a working knowledge of nutrition in today's environment.
- 247-3 (1,1,1) The School Lunch Program.** (a) Food purchasing; (b) quantity food production; and (c) nutrition practices in the school lunchroom.
- 256-5 Science of Food.** Application of scientific principles including preparation, chemistry, functions, and interrelationships in ingredients and their effects on physical, chemical, and sensory characteristics of foods. Three lectures and two three-hour laboratories per week. A charge of \$20 will be made for laboratory. Prerequisite: Chemistry 140a or 200 and 201.
- 298-1 Multicultural Food Experience.** (Multicultural Applied Experience Course) This course is designed to provide multicultural experience in food selection, eating habits, meal patterns and food preparation. Students will interact with community members of various ethnicity throughout the semester. Shopping and cooking projects will provide firsthand experience. Prerequisite: concurrent or prior registration in one of the following: Anthropology 202, History 210, Philosophy 210, 211 or Sociology 215.
- 302-3 Dimensions of Tourism.** In-depth examination of the components of the travel and tourism industry, motivators to travel, and the various market segments. Also covers analysis of the economic, social, cultural and environmental impacts to tourism. Prerequisite: 202 or consent of instructor.
- 320-3 Foundations of Human Nutrition.** Principles of human nutrition in relation to intermediary metabolism and the role of vitamins and minerals. Prerequisite: 215, Chemistry 140a or equivalent.

321-3 Food and Nutrition Assessments. Demonstration and use of tools and practices in assessing food and nutrition behaviors of individuals and groups in clinical and community nutrition care settings. Includes merchandising food and nutrition services as part of marketing strategies. Prerequisites: 215, 256.

335-3 Beverage Management. Introduction to beers, wines and spirits. Legal responsibilities of alcohol service. Introduction to responsible beverage service and management. A charge of \$10 will be made for laboratory. Prerequisite: 156 or equivalent and must be a food and nutrition major.

356-3 Experimental Foods. Experimental approach to the study of factors influencing the behavior of foods. Individual problems. A charge of \$10 will be made for laboratory. Prerequisite: 256.

360-4 Quantity Food Production. Selection and use of institutional foodservice equipment including specifications, cost and care; use of standardized formulas, techniques of quantity preparation, and service of food to large groups. Prerequisite: 156 (HRTA) or 256 (Dietetics) or equivalent.

361-3 Hospitality Development. Development issues in the hospitality industry. Case studies on purchase/construction issues, inflation and recession, fiscal management and expansion of hospitality firms. Family-owned and operated businesses and entrepreneurship will be addressed.

363-3 Purchasing Management in the Hospitality Industry. Managerial principles of purchasing in the hospitality industry, with emphasis on functions of purchasing agents, types of markets, and methods of purchasing. Prerequisite: 156 or equivalent.

371-2 Field Experience. Opportunity for supervised learning experiences in the student's major. Prerequisite: consent of instructor or chair.

372-3 Front Office Management. Principles and concepts of effective front office management in the lodging industry.

373-3 Food and Beverage Cost Control. Examination of the managerial responsibilities of the food and beverage manager in the hospitality operation. Management methods in budgeting, forecasting, cost control, and establishing operational policies and systems. A charge of \$15 will be made for laboratory.

390-1 to 4 Special Studies in Food and Nutrition. Enables students to pursue personal research interests in the food and nutrition area. Prerequisite: juniors and seniors only and consent of department.

400-1 Senior Seminar. Discussion of issues affecting food and nutrition professionals. Not for graduate credit. Prerequisite: 100 or 202, senior status.

410-3 Nutrition Education. Course provides principles, techniques and evaluation methods necessary to incorporate food and nutrition into the educational curriculum of schools, hospitals, out-patient clinics and health agencies. Principles of interviewing, counseling and education are discussed. Prerequisite: 321.

420-3 Recent Developments in Nutrition. Critical study of current scientific literature in nutrition. Prerequisite: 320 or equivalent.

421-3 to 9 (3 per topic) Developments in Hospitality. This course will provide the students with the opportunity for an in-depth study of topics relating to their specific interest in the hospitality field. Any subject area may be repeated (a) food, (b) lodging and (c) travel. The topic within the subject area will be selected from issues, problems or developments in the hospitality field. Prerequisite: 202 or consent of instructor 3-9 credits.

425-3 Energy and Nutrition Utilization. The interrelationship of cell physiology, metabolism and nutrition as related to energy and nutrient utilization, including host needs and biochemical disorders and diseases requiring specific nutrition therapy or consideration. Prerequisites: 320, Chemistry 140b, Physiology 310.

435-3 Hospitality Marketing Management. Marketing principles and practices from a hospitality management perspective. Develops the use of marketing tools as an integral part of any hospitality and tourism operation. Prerequisite: 202 and Marketing 304.

460-4 Food Service Management. The course includes practical experience in the operational administration of a foodservice facility. Provides students an opportunity to exercise their ability and creativity to manage a noon luncheon service for the Student Center Old Main Room. The lab involves situations in which students fill the different roles involved with food service management. Prerequisite: 360.

461-3 Service Organization and Management in the Hospitality Industry. Managerial aspects of the hospitality industry as related to the provision of quality service. Organizational structures, management techniques, decision-making abilities, ethics, leadership, and human resource issues are examined. Prerequisite: 435 and Management 304.

470-3 Medical Nutrition Therapy. Physiological and biochemical changes associated with certain diseases and the appropriate nutrition therapy. Prerequisite: 320, Chemistry 140b and Physiology 310.

472-3 Applied Medical Nutrition Therapy. Application of nutrition principles to the management of patients with altered physiological and biochemical states. Off-campus experiences may be required. Prerequisite: 470 or concurrent enrollment and consent of instructor.

473-3 Hotel Administration. An advanced hotel administration course covering contemporary management issues such as conference management, hotel security, strategic planning and hotel law. Prerequisite: 372 or consent of instructor.

480-3 Community Nutrition. Offers a study of the objectives, implementation strategies, and evaluation methods of nutrition programs in communities' health programs. Integration of nutrition into the health care delivery system at local, state, and federal levels is included.

490-3 Nutrition and Growth. The study of human nutrition during each phase of the life cycle, prenatal through geriatric. Students elect at least two phases for in-depth study. A general review of basic nutrition is included. Prerequisite: 320 or equivalent.

Food and Nutrition Faculty

Anderson, Sara Long, Assistant Professor, Ph.D., Southern Illinois University Carbondale, 1991.

Ashraf, Hea-Ran L., Associate Professor, Ph.D., Iowa State University, 1979.

Banz, William J., Assistant Professor, Ph.D., University of Tennessee, 1995.

Boushey, Carol J., Assistant Professor, Ph.D., University of Washington, 1995.

Corker, John W., Visiting Assistant Professor, M.B.A., Michigan State University, 1964.

Endres, Jeannette M., Professor, Ph.D., St. Louis University, 1972.

Girard, T.C., Assistant Professor, M.S., University of Wisconsin, 1992.

Harper, Jenny M., Professor, *Emerita*, Ph.D., Cornell University, 1941.

Konishi, Frank, Professor, *Emeritus*, Ph.D., Cornell University, 1958.

Kroening, Gilbert H., Professor and *Chair*, Ph.D., Cornell University, 1965.

Welch, Patricia, Professor, Ph.D., Southern Illinois University, 1982.

Foreign Language and International Trade (Major)

The foreign language and international trade major, leading to the Bachelor of Arts degree in the College of Liberal Arts, combines education in the liberal arts with preparation for careers in the international business community. It is designed to combine skill in a foreign language with a fundamental understanding of international commerce. This is accomplished by a curriculum of studies which has two cores—one in language and one in international trade and related subject matters. This cross-disciplinary program allows for choice of language as well as some options in electives so that different interests may be accommodated and individual goals may be realized. Because of the demands made by such a course of studies, guidance throughout it is important; therefore it is required of students that they be advised by their Foreign Language and International Trade language advisor as well as the Foreign Language and International Trade director each semester.

At or near the end of the program of studies, application and expansion of the knowledge and skills gained by the student through course work is provided by an internship. Prerequisite to the internship: senior standing and satisfactory completion of both oral and written language competency examinations before the internship begins. An "internship checklist" must be submitted to the Foreign Language and International Trade director at least six months before the internship begins.

No grade lower than C will be accepted for any course required by the major (including Mathematics 139 and Psychology 102) taken at any institution at any time. A minimum grade of B is required in the appropriate SIUC 320b (320 for Russian and Spanish) language skills course. All students entering or reentering (after at least one fall or spring semester not enrolled as a Foreign Language and International Trade major or not enrolled at Southern Illinois University Carbondale) the foreign language and international trade program begin in the pre-foreign language and international trade classification (PFLT). Admission to the major may be requested only after overall grade point average is at least 2.75. After admission, a minimum overall gpa of 2.75 must be maintained. Students falling below that level will be remanded to PFLT. When the grade point average is back to 2.75, students may request reinstatement to the major.

Bachelor of Arts Degree, College of Liberal Arts

University Core Curriculum Requirements	(3) + 38
Including Economics 302i; English 101 and 102; Mathematics 139; Psychology 102, Foreign Language 201a or above substitutes for 3 hours of core humanities.	
College of Liberal Arts Academic Requirements (See Chapter 4)	(11) + 3
Requirements for Major in Foreign Language and International Trade	68-76
Courses in a Language (Chinese, French, German, Japanese, Russian or Spanish)	29-37

As prescribed by the program director; must include internship (Foreign Language 495).

Business Related Courses	39
Accounting 220, 230	6
Computer Science 200b or Information Management Systems 229	3
Economics 240, 241	6
Finance 330	3
Management 202, 345; and either Management 304 or Political Science 441	9
Management 208 or Accounting 208 or Economics 308.....	3
Marketing 304; and either 336 or 435	6
Mathematics 140	3
Electives	3-11
When choosing electives, the area of specialization should be considered. In the past students have taken electives in Computer Science, East Asian Studies, Economics, Finance, Food and Nutrition, Geography, History, Management, Marketing, Philosophy, Political Science and Sociology.	
Total	120

Foreign Language and International Trade Suggested Curricular Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
Foreign Language(100-Level).....	4	4	Foreign Language(200-Level).....	4	4
ENGL 101, 102.....	3	3	MGMT 208	3	-
MATH 139, 140	3	3	ECON 240	-	3
PSYC 102.....	3	-	Humanities	3	-
SPCM 101	-	3	Science	-	3
Human Health	2	-	MGMT 202	3	-
ECON 241	-	3	CS 200b	-	3
			ACCT 220, 230.....	3	3
Total	15	16	Total	16	16
THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
Foreign Language	3-4	6	Foreign Language	3	3
Fine Arts.....	3	-	Foreign Lang or Elect ¹	3	2-3
Science.....	3	3	FL 495 ²	-	3
MGMT 345	3	-	ECON 302i	3	-
MKTG 304.....	-	3	Multicultural Course	-	3
FIN 330.....	3	-	MGMT 304	3	-
Social Science.....	-	3	MKTG 336	3	-
Total	15-16	15	Total	15	11-12

¹Elective only if foreign language section does not require this course.

²Although a major part of the paperwork for Foreign Language 495 (Internship) takes place in the last semester of the senior year, students usually go on their internship the summer after the senior year. Oral and written proficiency exams are required prior to the internship.

Foreign Languages and Literatures (Department, Majors, Courses)

Majors and minors are offered in classics (minor: classical civilization), French, German, Russian, and Spanish. Minors are also offered in Chinese, classical Greek, East Asian civilization, Japanese, and Latin. Transfer students planning to major in a foreign language must complete a minimum of 12 semester hours of courses including at least one 300 or 400 level language/grammar course in that language at Southern Illinois University Carbondale. No courses completed with a grade below C will be counted toward fulfillment of the requirements for a major. For modern foreign languages, both oral and written language competency must be demonstrated in sepa

rate examinations at the advanced level. Students should plan to take these exams no later than two semesters prior to graduation so there is time to make up possible deficiencies before graduation. As part of the University Assessment program, majors in this department may require portfolios of student work. Students should check with their departmental advisor about this requirement. Failure to submit a suitable portfolio in a timely fashion may result in a delay in graduation. For students preparing to teach in the public schools, the oral and written competency examinations at the intermediate high level must be passed before student teaching is begun because of time constraints. Every foreign language major must have a departmental advance registration form, signed by the appropriate adviser in the department, before proceeding to college advisement and registration. It is strongly recommended that students who are planning to study abroad consult with their departmental adviser before leaving if they expect to transfer credit to SIUC.

Proficiency Examination Policy. Unit credit (without grade) on the basis of proficiency may be obtained through the Department in Chinese, French, German, Greek, Japanese, Latin, Russian and Spanish. This may be accomplished either by examination and/or by a validating course.

By Examination: Credit through examination may be given for first and second year basic skills courses only. Credit is given by the semester in Greek and Latin; all others only by the year. CLEP examinations in French, German and Spanish, and non-CLEP examinations in Latin are offered by the Testing Center Office in Woody Hall. Examinations in Chinese, Greek, Japanese and Russian are offered by the respective language sections (Classics, East Asian, Russian) and arrangements for these examinations should be made with the section head of the appropriate language. Students who desire credit by CLEP must not have earned college credit in the language they wish to proficiency. See *Proficiency Examinations and CLEP* in Chapter Two earlier in this catalog for University guidelines.

By Validating Course: Only basic language skills courses taken at SIUC, up to and including the first skills course at the three-hundred level, may serve as validating courses. (See department for specific list.) Upon receiving a grade of A or B in a validating course, a student may, upon petitioning, be granted credit for up to two of the immediately preceding basic skills courses.

Bachelor of Arts Degree, College of Liberal Arts

(WITHOUT SECONDARY SCHOOL TEACHING CERTIFICATE)

<i>University Core Curriculum Requirements</i>	41
<i>College of Liberal Arts Academic Requirements</i> (See Chapter 4)	14
Though not required, a minor of at least 15 hours is recommended. This may be in another foreign language or in any other department within the College of Liberal Arts, but must be approved by the student's departmental adviser; a minor outside the college must be approved by the dean of the college as well.	
<i>Requirements for Major in Foreign Language</i>	36 ¹
Except for classics, 100-level courses will not count toward the major and at least 12 hours must be in courses on the 400-level.	
<i>Electives</i>	29
<i>Total</i>	120

Bachelor of Arts Degree, College of Liberal Arts

(WITH SECONDARY SCHOOL TEACHING CERTIFICATION)

<i>University Core Curriculum Requirements</i>	41
To include ENGL 101, 102; SPCM 101; MATH 110 or 113; PHYS 101, GEOL 110 or CHEM 106; PLB 115, 117 or ZOOL 115; PLB 301i, 303i or ZOOL 312i; HIST 101a ² or FL 102; AD 101, HIST 201, MUS 103 or THEA 101; ENGL 121 or 204; AD 227, ANTH 202, ENGL 205, HIST	

202, 210, LING 201, PHIL 210, 211 or SOC 215; POLS 114; HIST 110; HED 101 or PE 101.

<i>College of Liberal Arts Academic Requirements</i> (See Chapter 4)	14
Though not required, a minor of at least 15 hours is recommended. This may be in another foreign language or in any other department within the College of Liberal Arts, but must be approved by the student's departmental adviser; a minor outside the college must be approved by the dean of the college as well.	
<i>Requirements for Major in Foreign Language</i>	36 ¹
100-level courses will not count toward the major and at least 12 hours must be in courses on the 400-level. Foreign Languages and Literatures 436 will be one of those courses required on the 400-level for majors in French, German, and Spanish.	
<i>Education Requirements</i>	31
Professional Education Requirements	28
(See Teacher Education Program.)	
Psychology 102	3
<i>Electives</i>	<u>1-2</u>
<i>Total</i>	123-124

Bachelor of Science Degree, College of Education

For College of Education students majoring in a foreign language, the scheduling of those classes which apply to the major must be done with the appropriate adviser from the Department of Foreign Languages and Literatures.

<i>University Core Curriculum Requirements</i>	41
To include SPCM 101; ENGL 101 and 102; MATH 110 or 113; PHYS 101, GEOL 110 or CHEM 106; PLB 115, 117 or ZOOL 115; PLB 301i, 303i or ZOOL 312i; HIST 101a ² or FL 102; AD 101, HIST 201, MUS 103 or THEA 101; ENGL 121 or 204; AD 227, ANTH 202, ENGL 205, HIST 202, 210, LING 201, PHIL 210, 211 or SOC 215; POLS 114; HIST 110; HED 101 or PE 101.	
<i>Requirements for Major in Foreign Language</i>	36 ¹
100-level courses will not count toward the major and at least 12 hours must be in courses at the 400-level. Foreign Languages and Literatures 436 will be one of those courses required at the 400-level for majors in French, German, and Spanish.	
<i>Education Requirements</i>	31
Professional Education Requirements	28
See Teacher Education Program.	
Psychology 102	3
<i>Electives</i>	<u>12</u>
<i>Total</i>	120

¹See individual language listings for specific requirements.
²Required to meet non-western civilization/third world culture requirement.

Placement. The student who has completed only one year of foreign language in high school normally begins with the first semester course. The student who has successfully completed two years of study in high school of any language currently taught in the department may begin with the second year level without having to take the placement proficiency examination. A student majoring in a foreign language who has taken four years of that language in high school is expected to begin with 300-level courses and to take more upper level courses. Those students who have successfully completed three or more years of high school language should consult the departmental adviser for that language.

International Public Service Specialization

Foreign Language with a specialization in International Public Service (IPS) is designed for those students whose interests are not focused on language alone, but on its application or use in a career in one of the many forms of international public service in either the governmental or private sectors. The program of study includes all language skill courses normally required for the major in French, German, Russian, or Spanish, an internship or study abroad experience, a core of required courses for the IPS specialization, and appropriate area studies courses in history, political science, anthropology and geography.

Minor

A minor in a foreign language consists of a minimum of 18 hours in courses above the first-year level of which 3 hours must be taken in a regularly scheduled 300- or 400-level course at Southern Illinois University Carbondale. See individual language listings for specific requirements. State certification requirements, in terms of total semester hours of subject matter courses, may be met in part by counting first-year foreign language courses or by doing additional advanced work. No courses completed with a grade below C will be counted toward fulfillment of the requirements for a language minor.

A minor in classical civilization or East Asian civilizations is constituted by 15 hours of courses to be selected in consultation with the appropriate sectional adviser.

Secondary Concentration for Majors in the College of Business and Administration

The Department of Foreign Languages and Literatures participates with the College of Business and Administration's major program in business and administration by offering a secondary concentration of 20-23 hours for those students who wish to formulate an academic program leading to a career specialization which combines business and a foreign language.

The secondary concentration varies according to the language chosen, but does not normally exceed 23 hours and involves course work from the 100 through the 400 levels. For specific course requirements in the respective languages, interested students should contact advisers in the Department of Foreign Languages and Literatures.

CHINESE

Minor

<i>Chinese courses above 100 level</i>	18
200 level: 201a,b	8
300 level or 400 level	10

CLASSICS

Bachelor of Arts Degree, College of Liberal Arts

<i>Classics courses and courses from related disciplines</i>	36
Original Greek and Latin courses, two years of one language or one year of each	12-16
Electives approved by classics adviser from offerings in classics and related disciplines	20-24

Minor in Greek

Greek courses above 100-level	18
-------------------------------------	----

Minor in Latin

Latin courses above 100-level (388 and 488 may not be counted); 320 recommended 18

Classics Suggested Curricular Guide

FIRST YEAR			SECOND YEAR		
	FALL	SPRING		FALL	SPRING
CLAS (Latin) 133a,b	4	4	CLAS 202a,b	3	3
ENGL 101, 102.....	3	3	CLAS 130a,b	4	4
Math, Fine Arts	3	3	Social Science.....	3	3
FL 230, 101	3	3	Science	3	3
Human Health	2	-	Multicultural.....	3	-
Elective.....	-	3	SPCM 101	-	3
Total.....	15	16	Total.....	16	16
THIRD YEAR			FOURTH YEAR		
	FALL	SPRING		FALL	SPRING
Latin 300-Level.....	3	3	Latin 400-Level.....	3	3
Greek 201a,b.....	3	3	Greek 300-Level.....	3	3
CLAS 270 or 271.....	3	-	Elective	9	6
CLAS 401	-	3			
CoLA Science	3	-			
FL 310i.....	-	3			
Elective.....	3	3			
Total.....	15	15	Total.....	15	12

Minor in Classical Civilization

Courses to be selected in consultation with classics adviser from Greek, Latin, or classical civilization: Classics 101, 225, 270, 271, 310, 332, 405, 406, 496, Foreign Languages and Literatures 101, 230, and approved courses in related disciplines. 15¹

¹Classical civilization includes all classics courses above the 100-level for which no knowledge of Greek or Latin is required.

EAST ASIAN CIVILIZATION

Minor

Courses in Chinese and Japanese selected in consultation with adviser ¹..... 15

¹18 hours is required for state certification.

FRENCH

Bachelor of Arts Degree, College of Liberal Arts

Requirements for Major in French ¹	36
French 201a,b	8
French 320a,b, 330 plus 8 hours of any other 300-level course	14
(French 320b fulfills the College of Liberal Arts Writing-Across-the-Curriculum requirement)	
Any combination of 400-level courses.....	14
(French 410 fulfills the College of Liberal Arts requirement for a second departmental writing-intensive course.)	
At least one literature course must be taken at either the 300 or 400-level.	
Both oral and written language competency must be demonstrated in separate examinations at the advanced level.	

¹ Three hours of the French major will substitute for three credits of Humanities, Group One or Group Two.
² With the approval of the French section, one semester of French 220 may be counted toward the major or minor, in which case the 300 or 400-level requirements would be reduced by two hours for the major or minor.

**Bachelor of Science Degree, College of Education, or Bachelor of Arts Degree,
College of Liberal Arts (with secondary school certification)**

<i>Requirements for Major in French</i>	36
French 201a,b ²	8
French 320a,b, 330 plus 8 hours of any other 300-level course	14
(French 320b fulfills the College of Liberal Arts Writing-Across-the-Curriculum requirement)	
Foreign Language 436 and any combination of 400-level French courses	14
(French 410 fulfills the College of Liberal Arts requirement for a second departmental writing-intensive course.)	
At least one literature course must be taken at either the 300 or 400-level.	
Both oral and written language competency must be demonstrated in separate examinations at the advanced level.	

¹ With the approval of the French section, one semester of 220 may be counted toward the major or minor, in which case the 300 or 400-level requirements would be reduced by 2 hours for the major or minor.

French Suggested Curricular Guide

FIRST YEAR			SECOND YEAR		
	FALL	SPRING		FALL	SPRING
French 123a,b	4	4	French 201a,b.....	4	4
English 101, 102	3	3	SPCM 101	3	-
Core Math.....	3	-	Core Humanities.....	-	3
Core Fine Arts.....	-	3	Core Science.....	3	3
Core Social Science.....	3	3	Electives	6	6
Core Human Health.....	2	-			
Electives	-	3	<i>Total</i>	16	16
<i>Total</i>	15	16			
THIRD YEAR			FOURTH YEAR		
	FALL	SPRING		FALL	SPRING
French 320a,b	3	3	French 410, 411	3	3
French 321.....	3	-	French 430 or 435	4 or 3	-
French 330.....	-	3	French 470.....	-	4
French 335	-	3	Interdisciplinary Course	3	-
CoLA Science	3	-	French 414 or 440	-	3
Multicultural Course	-	3	Electives	5	3
Electives	6	3	<i>Total</i>	14 or 15	13
<i>Total</i>	15	15			

Minor

<i>French courses above 100 level</i> ¹	18
200 level: 201a,b	8
300 level: 320a,b plus any other 300 level courses	10

¹With the approval of the French section, one semester of 220 may be counted toward the major or minor, in which case the 300 or 400-level requirements would be reduced by 2 hours for a major or minor.

GERMAN

At least one course in the history of Germany or Central Europe is recommended for all students majoring in German. Credit must be earned in at least one regularly scheduled 400-level course taken on the Southern Illinois University Carbondale campus.

Bachelor of Arts Degree, College of Liberal Arts

<i>Requirements for Major in German</i>	36
German 201a,b.....	8
German 320a,b plus 8 hours of any other 300-level courses	13
(German 320b fulfills the College of Liberal Arts Writing-Across-the-Curriculum requirement)	
Any combination of 400-level courses.....	12

- (German 410 fulfills the College of Liberal Arts requirement for a second departmental writing-intensive course.)
- German electives (300 or 400-level) 3
- At least one literature course must be taken at either the 300 or 400-level.
- Both oral and written language competency must be demonstrated in separate examinations at the advanced level.

¹³ hours of the German major will substitute for 3 credit hours of Humanities, Group 1 or Group 2

Bachelor of Science Degree, College of Education or Bachelor of Arts Degree, College of Liberal Arts (with secondary school certification)

- Requirements for Major in German*..... 36
- German 201a,b 8
- German 320a,b plus 8 hours of any other 300-level courses (German 320b fulfills the College of Liberal Art Writing-Across-the-Curriculum requirement)..... 13
- Foreign Language 436 plus any combination of 400-level German courses (German 410 fulfills the College of Liberal Arts requirement for a second departmental writing-intensive course.) 12
- German electives (300 or 400-level) 3
- At least one literature course must be taken at either the 300 or 400-level.
- Both oral and written language competency must be demonstrated in separate examinations at the advanced level.

¹³ hours of the German major will substitute for 3 hours of Humanities, Group 1 or Group 2

German Suggested Curricular Guide

FIRST YEAR			SECOND YEAR		
	FALL	SPRING		FALL	SPRING
German 126a,b	4	4	German 201a,b.....	4	4
English 101, 102.....	3	3	SPCM 101	3	-
Core Math	3	-	Core Humanities	-	3
Core Fine Arts	-	3	Science	3	3
Core Social Science	3	3	Elective	3	3
Core Human Health.....	2	-	Elective	3	2
Elective	-	3			
<i>Total</i>	15	16	<i>Total</i>	16	15
THIRD YEAR			FOURTH YEAR		
	FALL	SPRING		FALL	SPRING
German 320a,b	4	3	German 410, 411	3	3
German 330 or 335.....	3	-	German 440.....	3	-
German 371 or 370.....	-	3	German 480.....	-	3
CoLA Science	3	-	Interdisciplinary Course	3	-
Core Multicultural Course.....	-	3	German 493.....	-	3
Elective	6	6	Elective	6	3
<i>Total</i>	16	15	<i>Total</i>	15	12

Minor

- Courses above 100 level 18
- 200 level: 201a,b (201c recommended) 8-11
- 300 level: 320a,b 7
- German electives (300 or 400 level including at least one regularly scheduled course) 0-3

GREEK

(SEE CLASSICS)

JAPANESE

Minor

Japanese courses above 100 level	18
200 level: 201a,b	8
300 level or 400 level	10

LATIN

(SEE CLASSICS)

RUSSIAN

Bachelor of Arts Degree, College of Liberal Arts

<i>Requirements for Major in Russian</i>	36
200 level: 201a,b	8
300 level: Any combination of 300 level courses	12
(Russian 305 fulfills the College of Liberal Arts requirement for a second departmental writing - intensive course.)	
400 level: Any combination of 400 level courses including at least one literature course	12
(Russian 411 fulfills the College of Liberal Arts requirement for a second departmental writing - intensive course.)	
Russian electives (300 or 400 level)	4

Russian Suggested Curricular Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
Russian 136a,b	4	4	Russian 201a,b	4	4
ENGL 101, 102	3	3	Core Humanities	3	-
Core Math	3	-	Russian 220	-	2
Core Fine Arts	-	3	Science	3	3
Core Social Science	3	3	SPCM 101	3	-
Core Human Health	2	-	Russian 470	-	3
Core Elective	-	3	Elective	3	3
Total	15	16	Total	16	15
THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
Russian 305	4	-	Russian 480	3	-
Russian 306	-	3	Russian 411	-	3
Russian 330	3	-	Russian 320	4	-
Russian 465	-	3	Russian 415	-	3
CoLA Science	3	-	Interdisciplinary Course	3	-
Core Multicultural Course	-	3	Elective	2	6
Elective	3	3	Elective (CP 467)	3	-
Elective (HIST 437a,b)	3	3			
Total	16	15	Total	15	12

Minor

Russian courses above 100 level	18
200 level: 201a,b	8
Any combination of 300 or 400 level courses	10

SPANISH

Bachelor of Arts Degree, College of Liberal Arts

<i>Requirements for Major in Spanish</i>	36
200 level: 201a,b	8
Spanish 305, 306, 320 and 411 plus any combination of 300 or 400-level courses which includes a literature course and at least nine additional 400-level hours	21-24

(Spanish 320 fulfills the College of Liberal Art Writing-Across-the-Curriculum requirement; Spanish 410 fulfills the College of Liberal Arts requirement for a second departmental writing-intensive course.)

At least one literature course must be taken at either the 300 or 400-level.

Spanish electives (only one semester of 220 may be counted toward the major) 4-7

Both oral and written language competency must be demonstrated in separate examinations at the advanced level.

¹³ hours of the Spanish major will substitute for 3 credit hours of Humanities, Group 1 or Group 2

Bachelor of Science Degree, College of Education or Bachelor of Arts Degree, College of Liberal Arts (with secondary school certification)

Requirements for Major in Spanish..... 36

Spanish 201a,b 8

Spanish 305, 306, 320 and 411; Foreign Language 436 plus any combination of 300 or 400-level courses which includes a literature course and at least six additional 400-level hours 21-24

(Spanish 320 fulfills the College of Liberal Arts Writing-Across-the-Curriculum requirement; Spanish 410 fulfills the College of Liberal Arts requirement for a second departmental writing-intensive course.)

At least one literature course must be taken at either the 300 or 400-level.

Spanish electives (only one semester of 220 may be counted toward the major) 4-7

Both oral and written language competency must be demonstrated in separate examinations at the advanced level.

Spanish Suggested Curricular Guide

FIRST YEAR			SECOND YEAR		
	FALL	SPRING		FALL	SPRING
Spanish 140a,b.....	4	4	SPAN 201a,b.....	4	4
ENGL 101, 102.....	3	3	SPCM 101.....	3	-
Core Math.....	3	-	Spanish 220.....	-	2
Core Fine Arts.....	-	3	Science.....	3	3
Core Social Science.....	3	3	Elective.....	3	-
Core Human Health.....	2	-	Core Humanities.....	-	3
Elective.....	-	3	Elective.....	3	3
Total.....	15	16	Total.....	16	15
THIRD YEAR			FOURTH YEAR		
	FALL	SPRING		FALL	SPRING
Spanish 320.....	4	-	Spanish 411.....	3	-
Spanish 370 or 371.....	-	3	Spanish 400-Level.....	3	3
Spanish 306.....	3	-	Spanish 400-Level.....	-	3
Spanish 305.....	-	2	Spanish 305.....	2	-
CoLA Science.....	3	-	Elective.....	-	3
Core Multicultural Course.....	-	3	Interdisciplinary Course.....	3	-
Elective.....	6	6	Elective.....	3	5
Total.....	16	14	Total.....	14	14

Minor

Spanish courses above 100 level 18

200 level: 201a,b 8

300 level: 306 and 320 7

Spanish electives (only one semester of 220 may be counted toward the minor) 3

Foreign Language Courses (FL)

For other foreign language courses see Chinese, Classics, East Asia, French, German, Japanese, Russian and Spanish following foreign language courses.

101-3 Classical Civilization. (University Core Curriculum) [IAI Course: HF 902] A survey of classical civilization from the Minoans to the Roman Empire with three foci: Homeric and Classical Greece and the Roman Experience as seen by its artists.

102-3 East Asian Civilization. (University Core Curriculum) An introduction to East Asian Cultural traditions, literature, philosophy, history, art and social organization of China and Japan.

120-8 (4, 4) Beginning American Sign Language. This course is designed for students who have had limited or no prior knowledge of American Sign Language (ASL). The focus will be on developing visual readiness skills and developing both expressive and receptive skills in basic ASL for academic and social environments. The course includes an introduction to conversational vocabulary, fingerspelling, grammatical principles and sign order rules (syntax). Information about the deaf community and deaf culture will also be introduced.

199-3 to 9 (3 per topic) Self Instructional Language. A passive skills (listening and reading) self instructional program in (a) Italian, (b) Korean, (c) Portuguese. Unsupervised language study using language laboratory facilities and designated text materials. Completion of this course does not include speaking and writing skills and thus does not fulfill college language requirements. Credit granted upon successful completion of examination. Mandatory Pass/Fail.

220-8 (4, 4) Intermediate American Sign Language. This course is designed for students who have taken ASL 101a,b or had some prior training in American Sign Language (ASL). The focus will be on continuing to develop both expressive and receptive skills in basic ASL for academic and social environments. The course includes conversational vocabulary, fingerspelling, grammatical principles and sign order rules (syntax). Information about deafness, deaf history and deaf language/performing arts will be covered as well as unique aspects of the American deaf community and deaf culture.

230-3 Classical Mythology. (University Core Curriculum) [IAI Course: H9 901] An inquiry into the nature of myth and its relevance today while studying selected myths principally of the Greeks and Romans.

258-1 to 4 Work Experience. Ungraded credit for work experience which has taken place subsequent to admission to SIUC. Such experience must be related to student's major in a foreign language or FLIT. Mandatory Pass/Fail. Prerequisite: sophomore standing and approval by chair if foreign language major or by director if FLIT major.

298-1 Multicultural Applied Experience. (Multicultural Applied Experience Course) An applied experience, service-oriented credit in American diversity involving a group different from the student's own. Difference can be manifested by age, gender, ethnicity, nationality, political affiliation, race or class. Students can sign up for the one-credit experience in the same semester they fulfill the multicultural requirement for the University Core Curriculum or coordinate the credit with a particular core course on American diversity, although neither is required. Students should consult the department for course specifications regarding grading, work requirements and supervision. Grade Pass/Fail.

300-3 to 6 (3,3) Masterpieces of World Literature. Readings from and discussions of both Western and Eastern literatures, taken from ancient to modern times. Occasional guest lectures by faculty of the department, who speak on their areas of special interest. All readings and lectures in English.

310I-3 Classical Themes and Contemporary Life: Seminar Series. (University Core Curriculum) [IAI Course: H9 900] Specific aspects of Classical Civilization are compared with aspects of our own society. In alternate years, the course will treat different themes, e.g., Drama's Birthplace: Classical Athens; Roman Heroes and Anti-Heroes, or Athletics, Sports and Games in the Ancient World. When offered in Europe, the course will focus on how these values are reflected in architecture, art, the military and the arena from ancient times through the Renaissance and beyond.

400A-3 to 12 Variable Elementary Languages. Elementary conversational skills in a language not otherwise taught in this department. Since emphasis is on oral skills only, course does not fulfill any college or departmental language requirement. Language taught varies from year to year. Must be taken in a, b sequence.

400B-3 to 12 Variable Elementary Languages. Elementary conversational skills in a language not otherwise taught in this department. Since emphasis is on oral skills only, course does not fulfill any college or departmental language requirement. Language taught varies from year to year. Must be taken in a, b sequence.

436-3 Methods in Teaching Foreign Languages. Survey of general principles of second-language teaching, based upon insights of modern linguistics and learning-psychology. Followed by intensive practical work in classroom and language laboratory with teachers experienced in the student's specific language field. Required of prospective teachers of foreign languages in secondary schools. Prerequisite: concurrent or prior enrollment in 300-level course in French, German, Latin, Russian, or Spanish.

475B-1 to 40 Study Abroad in Bregenz, Austria. One or two semesters at SIUC's International Center in Bregenz, Austria. A combination of regular SIUC courses in history, political science, art history, business, etc., and program-specific courses in the area of European studies all taught in English as well as German language courses at all levels are offered in a European setting. No prior knowledge of German is required, but students are expected to take German language courses in Austria at their appropriate level. This course or 475V is highly recommended for German and or FLIT majors. Not for graduate credit. Students will be charged on the basis of 15 hours per semester regardless of the hours of credit actually earned. Prerequisite: 2.75 overall grade point average.

475V-1 to 40 Study Abroad in Vienna, Austria. One or two semesters at the University of Vienna and the Economics University, Vienna, Austria. All courses taught in German. Students may obtain 30 to 40 semester hours of credit in German language, literature and civilization, and with prior approval, in elective areas of study including music, art, architecture, history, anthropology, political science, physical education, business, economics, and sociology. This course or 475B is highly recommended for German and/or FLIT majors. Not for graduate credit. Students will be charged on the basis of 15 hours per semester regardless of the hours of credit actually earned. Prerequisite: 5 semesters of college German or equivalent with a 3.0 grade point average.

495-3 to 12 (3 to 6, 3 to 6) Internship. Provides structure for application and expansion of knowledge gained through extensive preparatory course work in the subject area for the internship, as well as in the foreign language which has been studied. Normally taken abroad, in a country where the foreign language acquired by the student is universally used. Not for graduate credit. Prerequisite: senior standing and written approval from the director of Foreign Language and International Trade. This approval is subject to satisfactory completion of both oral and written language competency exams before the internship begins.

Chinese Courses (CHIN)

120-8 (4,4) Elementary Chinese. Standard (Mandarin) Chinese. The basic skills of listening, speaking, reading, and writing. No previous knowledge of Chinese required. Must be taken in a,b sequence.

201-8 (4,4) Intermediate Chinese. [IAI Course: (b) H1 900] Standard (Mandarin) Chinese. Development of listening, speaking, reading, and writing on the intermediate level. Must be taken in a,b sequence. Prerequisite: 120b or equivalent.

305-2 to 4 (2,2) Individualized Language Study. Designed to improve language skills beyond the intermediate level. Tailored to the particular needs of students. Prerequisite: 201b or equivalent.

320-8 (4,4) Advanced Chinese. Standard (Mandarin) Chinese. Further development of listening, speaking, reading, and writing skills on the advanced level. Emphasis on developing proficiency in reading modern Chinese through cultural readings. Must be taken in a,b sequence. Prerequisite: 201b or equivalent.

370-3 Contemporary China. A study of customs, habits, beliefs and traditions operating in China today. Taught in English. Prerequisite: Foreign Languages and Literatures 102 or consent of instructor.

390-1 to 6 Independent Study in Chinese. Directed individual study of some question, author, or theme of significance in the field of Chinese literature, language, or culture. Prerequisite: consent of instructor.

410-3 The Linguistic Structure of Chinese. (Same as Linguistics 411.) Phonology and syntax of Mandarin Chinese. Principal phonological features of major Chinese dialects. Special emphasis on the contrastive analysis between Mandarin Chinese and English. Theoretical implications of Chinese syntax for current linguistic theories. Prerequisite: one year of Chinese or Linguistics 401.

435-3 Business Chinese. An overview of China's business through reading in Chinese dealing with the major aspects of China's foreign trade ranging from broad principles and policies to concrete details of operation and procedure. Enhancement of conversational skills for business contexts. Prerequisite: 320 or equivalent.

470-3 Chinese Literature in Translation. Reading and analysis of selected Chinese works, authors, themes or genres in English translation with attention to literary genres and thought from ancient to contemporary times. Students taking this course for graduate credit will do a critical aspect. No knowledge of Chinese is required.

490-1 to 6 Advanced Independent Study in Chinese. Directed individual study of some question, author, or theme of significance in the field of Chinese literature, language, or culture. Prerequisite: consent of instructor.

Classics Courses (CLAS)

100-3 Greek and Latin in English. Vocabulary building through roots, prefixes, and suffixes. Recommended for students interested in the origin of English words. No knowledge of Greek or Latin is required.

101-3 Scientific Terminology: Greek and Latin Derivatives. Analysis of common vocabulary and of basic scientific terminology into its component prefixes, roots, and suffixes. The course concentrates on methods for recognizing and understanding polysyllabic technical terms. No prerequisite required. No knowledge of Greek or Latin is required.

130-8 (4,4) Elementary Classical Greek. The object of this course is to give students a firm foundation in the grammar, vocabulary, and syntax of Ancient Greek in order to enable them to progress to the reading of the Greek classics and New Testament. Must be taken in a,b sequence. No previous knowledge of Greek required.

133-8 (4,4) Elementary Latin. The object of this course is to give students a firm foundation in the grammar, vocabulary, and syntax of Latin in order to enable them to progress to the reading of the Latin classics. No previous knowledge of Latin required. Must be taken in a,b sequence.

201-6 (3,3) Intermediate Greek. [IAI Course: (b) H1 900] Reading and interpretation of selected works by authors such as Xenophon, Plato, Homer, and the New Testament writers. Must be taken in a,b sequence. Prerequisite: (a) 130b with a grade of C or better; (b) 201a.

202-6 (3,3) Intermediate Latin. [IAI Course: (b) H1 900] Reading from authors such as Livy, Caesar, and Cicero. Must be taken in a,b sequence. Prerequisite: 133b with a grade of C or better.

270-3 Greek Civilization. An introduction to the life and culture of ancient Greece. Greek contributions to western civilization in literature, art, history, and philosophy. No knowledge of Greek or Latin is required.

271-3 Roman Civilization. An introduction to the life and culture of ancient Rome. Rome's function in assimilating, transforming, and passing on the Greek literary and intellectual achievements. Rome's own contributions in the political, social, and cultural spheres. No knowledge of Greek or Latin is required.

310-3 to 9 (3 per topic) Ancient Art and Archaeology. Survey of the physical remains of ancient civilizations of the Aegean and Mediterranean areas. Special attention to the artistic and architectural achievements of the Greeks and Romans. Occasionally offered overseas. No knowledge of Greek or Latin is required.

311-3 to 9 (3 per topic) Ancient Mediterranean Religions. Examination of one or more of the major religions of the ancient Mediterranean (e.g., Egyptian, Mesopotamian, Levantine, Greek, Roman).

320-3 Latin Composition. The object of this course is to understand and appreciate the structure and style of Latin through composition. Prerequisite: 202a and b, each with a grade of C or better.

321-2 (1,1) Greek Composition. The object of this course is to understand and appreciate the structure and style of Greek through composition. Prerequisite: 201a and b, each with a grade of C or better.

332-3 Classical Drama. Reading several tragedies and comedies of the Greeks and Romans both with a view to enjoying them as timeless works of art and with a view to understanding how they grew out of the societies of classical Greece and Rome. No knowledge of Greek or Latin is required. This course satisfies the CoLA Writing Across the Curriculum requirement.

350-3 Homer in Greek. Reading and interpretation of selections from the *Iliad* or the *Odyssey*. Homeric grammar and metrics, epic diction, the conventions of oral poetry. This course satisfies the CoLA Writing Across the Curriculum requirement. Prerequisite: 201a and b, with a grade of C or better.

351-3 Greek Lyric Poetry in Greek. Reading and interpretation of poets of the Archaic Age such as Alcaeus, Sappho, and Pindar. Socio-political background, dialects, meters. Prerequisite: 201a and b, with a grade of C or better.

352-3 to 9 (3 per topic) Greek Tragedy in Greek. Reading and interpretation of selections from Greek tragic playwrights (Aeschylus, Sophocles, Euripides). Prerequisite: 201a and b, each with a grade of C or better.

353-3 to 9 (3 per topic) Greek Comedy in Greek. Reading and interpretation of the works of Greek comic playwrights such as Aristophanes and Menander. Prerequisite: 201a and b, each with a grade of C or better.

354-3 to 9 (3 per topic) Greek Philosophy in Greek. Reading and interpretation of the major works of Greek philosophy. Recommended for students with a double major in classics and philosophy. Prerequisite: 201a and b, each with a C or better.

356-3 to 9 (3 per topic) Greek Historians in Greek. Reading and interpretation of the works of Greek historians such as Herodotus, Thucydides and Xenophon. Recommended for students with double majors in classics and history. Prerequisite: 201a and b, with a grade of C or better.

370-3 to 9 (3 per topic) Vergil in Latin. Selections from Vergil's major works, the *Aeneid*, *Eclogues*, and *Georgics*. This course satisfies the CoLA Writing Across the Curriculum requirement. Prerequisite: 202a and b, each with a grade of C or better.

371-3 to 9 (3 per topic) Roman Lyric Poetry in Latin. Reading and interpretation of Latin lyric poetry. Socio-political background, meters, debts to Greek poets. Prerequisite: 202a and b, each with a grade of C or better.

372-3 to 9 (3 per topic) Senecan Tragedy in Latin. Reading and interpretation of Roman tragedies by Seneca. Prerequisite: 202a and b, each with a C or better.

373-3 to 9 (3 per topic) Roman Comedy in Latin. Reading and interpretation of selections from play(s) by Plautus and Terence. Prerequisite: 202a and b, each with a grade of C or better.

374-3 Roman Philosophy in Latin. Selections from Cicero, Lucretius, and Seneca the Younger. Recommended for students with double majors in philosophy and classics. This course satisfies the CoLA Writing Across the Curriculum requirement. Prerequisite: 202a and b, each with a grade of C or better.

375-3 Medieval Latin. Selected readings from Latin authors of the Middle Ages. Prerequisite: 202a and b, each with a grade of C or better.

376-3 to 9 (3 per topic) Roman Historians in Latin. Selections from Caesar, Sallust, Livy, Tacitus and Suetonius. Recommended for students with double majors in classics and history. This course satisfies the CoLA Writing Across the Curriculum requirement. Prerequisite: 202a and b, each with a grade of C or better.

377-3 to 9 (3 per topic) Roman Satire in Latin. Reading and interpretation of work of authors such as Horace, Juvenal and Persius. Prerequisite: 202a and b, each with a grade of C or better.

379-3 to 9 (3 per topic) Myth, Fable, and Story in Latin. Selections from works such as the *Fables* of Phaedrus, the *Satyricon* of Petronius and the *Metamorphoses* of Apuleius. This course satisfies the CoLA Writing Across the Curriculum requirement. Prerequisite: 202a and b, each with a grade of C or better.

382-3 Greek Drama in Greek. Reading and interpretation of selections from the works of the classical Greek dramatists: Aeschylus, Sophocles, Euripides, and Aristophanes. Stage conventions of the Attic theater. This course satisfies the CoLA Writing Across the Curriculum requirement. Prerequisite: 201a and b, each with a grade of C or better.

388-3 Latin as a Research Tool. Intensive study of Latin as basis for development of reading knowledge. Covers grammar and vocabulary portion of first-year sequence in basic skills. Intended for graduate students. Undergraduates who wish to enroll are encouraged to consult with course instructor.

392-3 to 9 (3 per topic) Cicero in Latin. Reading and interpretation of Cicero's works. Prerequisite: 202a and b, each with a grade of C or better.

393-3 to 9 (3 per topic) Ovid in Latin. Reading and interpretation of Ovid's works including *Metamorphoses*, *Amores*, *Heroides* and *Ars Amatoria*. Recommended for students with double majors in classics and English. Prerequisite: 202a and b with a grade of C or better in each.

401-3 to 6 (3 per topic) Classical Literature in Translation. Reading and analysis of selected Greek and Latin authors, genres and themes. Students taking the course for graduate credit will do a critical study of one aspect. No knowledge of Greek or Latin is required.

415-3 to 9 (3 per topic) Readings in Greek Authors. Reading and interpretation of works of Greek literature at an advanced level. Students taking the course for graduate credit will do a critical study of one aspect. This course satisfies the CoLA Writing Across the Curriculum requirement. Prerequisite: two semesters of 300-level Greek or consent of instructor.

416-3 to 9 (3 per topic) Readings in Latin Authors. Reading and interpretation of works of Latin literature at an advanced level. Students taking the course for graduate credit will do a critical study of one aspect. This course satisfies the CoLA Writing Across the Curriculum requirement. Prerequisite: two semesters of 300-level Latin or consent of instructor.

488-3 Advanced Latin as a Research Tool. Concentrated and individualized training in the recognition and interpretation of basic and complex grammatical structures and in the systematic acquisition of the principles of word formation for vocabulary expansion. Techniques for intensive and extensive readings and for translation of unedited texts in the student's own field of study. Intended for graduate students. Undergraduates who wish to enroll are encouraged to consult with course instructor. With consent of student's own department, and with a grade of B or A, satisfies graduate program requirements for foreign languages as a research tool. Prerequisite: 388 or one year of Latin or equivalent.

491-3 to 9 (3 per topic) Topics in Classics. Intensive examination of selected areas of interest such as women in Antiquity, Greece and the Near East, Magic and Superstition in the Ancient World. Not for graduate credit.

496-1 to 9 (1 to 3 per topic) Independent Study in Classics. Guided research on problems in classics. The academic work may be done on campus or in conjunction with approved off-campus activities. Not for graduate credit. This course satisfies the CoLA Writing Across the Curriculum requirement. Prerequisite: consent of instructor.

497-3 Honors in Classics. Readings of classical literature, in Greek or Latin or English translation, for junior or senior majors. The course requires preparation of an honors paper or comparable project, and satisfies one of the requirements for graduation with honors in classics. This course satisfies the CoLA Writing Across the Curriculum requirement. Not for graduate credit. Prerequisite: 3.75 grade point average in classics courses and consent of classics faculty.

East Asian Courses (EA)

300-3 Masterpieces of Oriental Literatures. Lectures and collateral readings of representative oriental literary works in English translation with special attention to literary forms and thought from ancient to contemporary China and Japan. No knowledge of an oriental language required.

370-1 to 6 (1 to 3 per topic) Topics in East Asian Cultural Traditions. Selected topics in East Asian cultural traditions. May be repeated to a total of six hours with the consent of the department. No prerequisite. Taught in English.

French Courses (FR)

123-8 (4,4) Elementary French. The basic skills of listening, speaking, reading, and writing. No previous knowledge of French is required. Must be taken in a,b sequence.

124-2 Elementary French Conversation. Conversation skills for beginners. Special emphasis on tourist vocabulary. Prerequisite: concurrent enrollment in 123b or consent of instructor.

190-5 Review of Elementary French. A review course on first year level for students who have had two or more years of high school French or equivalent.

201-8 (4,4) Intermediate French. [IAI Course: (b) H1 900] Grammar review, translation, oral practice, written composition, and development of reading skills. Reading of material on contemporary France and selections from French literature. Prerequisite: 123b, 190, or two years of high school French, or equivalent.

220-2 to 4 (2,2) Intermediate French Conversation. Development of oral skills on the intermediate level. Not usually accepted toward major requirement. Prerequisite: 123b or 190 or equivalent.

300-3 Image of Women in French Literature. (Same as Womens Studies 352.) Female characters as they are represented in French literature through the centuries; the development of a psychological and sociological point of view of women through the examination of women's roles in French literature. Conducted in English. Counted toward major only with consent of adviser.

310-4 Development of French Literature from the Middle Ages Through the Eighteenth Century. Major literary movements and authors as exemplified in representative works.

311-3 Modern French Literature. The themes, structures, and language of some major works of poets, novelists, and playwrights from the early Romantics through the Existentialists and Robbe-Grillet.

320-6 (3,3) Advanced Language Skills. A review of grammar and syntax with extensive practice in translation and composition. Reading of French texts as basis for discussion and papers. Must be taken in a,b sequence. French 320b satisfies the CoLA Writing Across the Curriculum requirement. Prerequisite: grade of B or better in 201b or permission of instructor.

321-3 Advanced Conversation. Improvement of self-expression and aural comprehension. Expansion of vocabulary and idioms emphasized through classroom and language laboratory work. Highly recommended for those students with a major in French. Prerequisite: 201b.

330-3 Advanced Writing Skills. This course will help students make the transition from intermediate language courses to advanced courses that call for more sophisticated writing skills. Selections of texts (from media, literature, etc.) and exercises will teach the skills necessary to read, analyze and summarize texts, as well as write critical analyses and argumentative essays. Highly recommended for French majors and minors and French/FLIT majors.

335-3 Business French. An overview of cultural, economic, and commercial France. Study through readings and discussions of the following topics: government, agriculture, industry, and commerce; Common Market and foreign trade, financial institutions and taxation, social classes, and the world of work. France as a society of consumption. Translations and some commercial correspondence. Prerequisite: 320a or equivalent.

350-3 French Phonetics. Introduction to French phonetics involving perception and production of spoken French. Emphasis on corrective pronunciation and avoidance of English interference. Prerequisite: 201B or consent of faculty.

370-3 A View of France through its History, Arts and Cinema. Study of France through its history, its arts, and its cinema, with an emphasis on contemporary French culture. Offered in French. Prerequisite: 320a or permission of instructor.

375-1 to 6 Travel-Study in France. Travel-Study project, planned under supervision of French faculty and carried out in France. Prerequisite: 201b, and consent of faculty.

388-3 French as a Research Tool. Intensive study of French as basis for development of reading knowledge. Covers grammar and vocabulary portion of first-year sequence in basic skills. Intended for graduate students. Undergraduates who wish to enroll are encouraged to consult with course instructor.

390-1 to 6 Independent Study in French. Individual exploration of some question, author, or theme of significance within the field of French literature, language, or culture. Prerequisite: consent of instructor.

410-3 Advanced Language Study. Designed to improve language skills beyond the level of 320. Selected grammar review intensive practice in effective use of the written and spoken language through translations and free compositions. This course satisfies the CoLA Writing Across the Curriculum requirement. Prerequisite: 320b and 330 or permission of instructor.

411-3 Linguistic Structure of French. (Same as Linguistics 413.) Study of the phonology, morphology, and syntax of modern spoken and written French, stressing interference areas for English speakers in learning French. Prerequisite: 320a and 321 or equivalent, and 330 or permission of instructor.

412-4 History of the French Language. A survey of the phonological and morphological changes from Latin through Vulgar Latin and Old French to Modern French; study of an original Old French text, such as the *Chanson de Roland* or a romance of Chretien de Troyes. Knowledge of Latin not required. Prerequisite: 330 or permission of instructor.

414-3 Translation Techniques. Practice in oral translation — simultaneous and subsequent; written translation practice, from and into French, of materials from sources varying from technical, commercial, political, to general interest. Advanced grammar and syntax review as they relate to translation, with practice through exercises and translation. Prerequisite: 320b or equivalent, and 330 or permission of instructor.

415-3 Literary Stylistics. A study of the aesthetics and theory of French Literary expression. Disciplined stylistic analyses of excerpts from representative works of great French authors. Appreciation of distinctive qualities of each writer's genius. Consideration is given to various stylistic methods. Prerequisite: 330 or permission of instructor.

420-3 Medieval and Renaissance Literature. Study of the origins of French literature emphasizing the *Chanson de Roland*, *Tristan*, other courtly romances, and the lyric poetry of Villon, culminating with an examination of the development of the humanistic ideas and ideals of the French Renaissance. Prerequisite: 330 or permission of instructor.

430-4 Baroque and Classicism. An in-depth examination of artistic and social writings of baroque and classical literary figures such as Corneille, Racine, Moliere, La Fontaine, Descartes, Pascal, Mme de LaFayette, La Bruyere, and La Rochefoucauld. Discussion, reports, papers. Prerequisite: 330 or permission of instructor.

435-3 Business French II. Detailed treatment of postal facilities and services, types of banks and their operations, transport of goods, import-export, bills of exchange, billing and shipping, insurance, accounting, and the stock market. These topics will be the subject of translations and of commercial correspondence. Prerequisite: 320b or equivalent, may be taken independently of 335, and 330 or permission of instructor.

440-3 Literature of the Enlightenment. Study and discussion of the novel, theater, and philosophic writing of 18th century France as literature and as expressions of the Enlightenment. Major attention given to Montesquieu, Voltaire, Diderot, and Rousseau. Prerequisite: 330 or permission of instructor.

450-4 Literary Movements of the 19th Century. Romanticism, Realism, and Naturalism in the novel and theater followed by an examination of the reaction to these movements and of the influence of symbolism. Prerequisite: 330 or permission of instructor.

460-4 Studies in Literature of the 20th Century. Examination of the major themes, forms, techniques and style of novelists from Gide and Proust to Robbe-Grillet and dramatists from Giraudoux to Ionesco and Beckett. Prerequisite: 330 or permission of instructor.

470-4 French Culture and Civilization. Study of contemporary France: values, attitudes, beliefs and instructions. French civilization (history, literature, and the arts) will be treated mainly as a means of better understanding present day France. Offered in French. Prerequisite: 320a and 330 or permission of instructor.

475-3 to 6 Travel-Study in France. Travel-study project, planned under supervision of French faculty and carried out in France. Amount of credit depending on scope of study. Prerequisite: 320a or equivalent.

476-3 to 6 (3,3) French Civilization Outside of France. Encompasses a number of individual courses, each of which focuses on one of the many areas of the world in which France has played a significant role. Manifestations of French culture and civilization, past and present, are studied and evaluated within the framework of an evolving local and global historic context.

488-3 Advanced French as a Research Tool. Concentrated and individualized training in the recognition and interpretation of basic and complex grammatical structures and in the systematic acquisition of the principles of word formation for vocabulary expansion. Techniques for intensive and extensive readings and for translation of unedited texts in the student's own field of study. Intended for graduate students. With consent of student's department, and with a grade of B or A, satisfies graduate program requirement for foreign languages as research tool. Prerequisite: 330 or permission of instructor, and 388 or one year of French, or equivalent.

490-1 to 6 Advanced Independent Study in French. Individual exploration of some question, author, or theme of significance within the field of French literature, language or culture. Prerequisite: 320a, 321, 330 and permission of instructor.

German Courses (GER)

126-8 (4,4) Elementary German. The course emphasizes German culture as it is expressed in the language. It concentrates on the four language skills of understanding, speaking, reading, and writing. No previous knowledge of German required. Must be taken in a,b sequence. Purchase of a workbook is required.

201-8 (4,4) Intermediate German. [IAI Course: (b) H1 900] Intensification of the four basic language skills. Study of the culture and everyday living situations in the German-speaking countries. Must be taken in a,b sequence. Prerequisite: 126b or equivalent.

201C-6 (3,3) German Language Workshop. This intensive (15 days), total-immersion (exclusively in German) program combines formal classwork with informal seminars, group activities (folk singing, skits, play readings, films, talent shows, etc.) and individual assignments (daily compositions, diaries). May be repeated once but only three hours will count toward major or minor. Prerequisite: 201b or consent of instructor.

202-2 (1,1) Intermediate German Conversation. Designed to improve the student's speaking ability through use of modern media. Must be taken in a,b sequence or as companion course to 201a or b or with consent of instructor. Prerequisite: 126b or equivalent.

320-7 (4,3) Advanced Composition and Conversation. Devoted to increasing the student's command of German. Intensive practice in oral and written composition. Beginning with rather controlled subject matter and progressing to a wider choice of topics. Conducted primarily in German. To be taken in sequence. German 320b satisfies the CoLA Writing Across the Curriculum requirement. Prerequisite: grade of B or better in 201b or permission of instructor.

330-3 Introduction to German Literature. Survey of masterpieces of German literature including works from various genres and from the major periods of German literary history. Student projects will include demonstration of various techniques of literary criticism. Course is taught primarily in German. Prerequisite: 201b or equivalent.

335-3 Survey of German Literature. A survey of German literature from its beginning in the early Middle Ages to the present. Focusing on the major periods, authors, and works of German literature, this course will provide the students with an initial encounter with literature in an historical context and help train them to read both extensively and intensively. Prerequisite: 201b or equivalent.

345-3 Introduction to Business German. An overview of the business communities of Germany and Austria with respect to communications, trade, industry, government, the European Union, culture and the educational system. Prerequisite: 320a or concurrent registration.

370-3 Contemporary Germany. Study of life in Germany since World War II including the customs and habits, thoughts and beliefs, as well as the broad complex of traditions basic to everyday life. Readings include literary and journalistic materials as well as written and filmed documentaries. Taught primarily in German. Prerequisite: 201b or equivalent and/or consent of instructor.

371-3 Cultural History of Germany. An overview of geographic facts and the intertwining economic, political, social, and cultural developments in the German-speaking countries from the time of the Germanic tribes to the present. Taught primarily in German. Prerequisite: 201b or equivalent.

380-3 Modern German Prose. Introduction to outstanding German prose literature of the 19th and 20th centuries. Attention to historical and social backgrounds. Extensive readings supplemented by lectures and discussions. Conducted in German. Prerequisite: 201b or equivalent.

390-1 to 6 (1 to 3, 1 to 3) Directed Language Learning Activity. Special projects such as translation practicum, German play production, German newsletter, instructional assistance, special presentations, or internship in a business firm in Germany. May count as the fifth semester required for Foreign Languages and Literatures 475a. Prerequisite: consent of instructor.

410-3 Advanced Language Study. Designed to improve language skills beyond the level of 320. Selected grammar review and intensive practice in effective use of written and spoken language through translations and free compositions. This course satisfies the CoLA Writing Across the Curriculum requirement. Prerequisite: 320b or equivalent.

411-3 Linguistic Structure of Modern German. (Same as Linguistics 409.) The descriptive study of phonology, grammatical structure, and vocabulary of modern German with consideration of its structural differences from English and application to teaching. Appropriate for students with at least two years of German. Conducted in English.

412-3 History of the German Language. Development of German from its Indo-European origin to the present in political and cultural context. The main linguistic aspects dealt with are lexical and semantic changes. Appropriate for students with at least two years of German. Readings in German. Conducted in English.

435-3 Business German. An overview of German business, presented through lectures, readings, and discussions. Coursework with textbook and supplementary materials will focus on the major aspects of German business. Exercises will include vocabulary building, listening and reading comprehension, oral and written summarization, role playing in typical situations, mock telephone conversations, and business correspondence. Prerequisite: 320b or consent of instructor.

440-3 Studies in Early German Literature. The literature of the German-speaking countries from the early Middle Ages through the seventeenth century, with varying emphasis on authors, themes, genres, periods. Prerequisite: 330 or 335, consent of instructor, or graduate standing.

450-3 Studies in 18th Century Literature. Examination of the major writers and movements with their social, historical, and intellectual background during the 18th century in Germany and Austria. Prerequisite: 330 or 335, consent of instructor, or graduate standing.

455-3 Studies in 19th Century Literature. Detailed focus on specific aspects rather than a general survey of 19th century literature, e.g., major periods and movements, or major genres and sub-genres, or major and representative authors. Prerequisite: 330 or 335, consent of instructor, or graduate standing.

480-3 Studies in 20th Century Literature. Detailed focus on specific aspects rather than a general survey of 20th century literature, e.g., major periods, movements, and tendencies, or major genres and sub-genres, or major and representative authors. Prerequisite: 330 or 335, consent of instructor, or graduate standing.

488-3 Advanced German as a Research Tool. Concentrated and individualized training in the recognition and interpretation of basic and complex grammatical structures and in the systematic acquisition of the principles of word formation for vocabulary expansion. Techniques for reading and for translation of unedited texts in the student's own field of study. Intended for graduate students. With consent of student's department, and with a grade of B or A, satisfies graduate program requirement for foreign languages as a research tool. Prerequisite: Passing of CLEP test in German; or one year of college-level German; or consent of instructor (as determined by examination).

490-1 to 6 (1 to 3, 1 to 3) Independent Study in German. Project-study under supervision of German faculty. Amount of credit depends on scope of study. May be repeated as the topic varies, up to the maximum of six semester hours. Prerequisite: senior or graduate standing and approval of supervising instructor.

493-3 to 9 (3 per topic) Seminars in Special Topics in Literature and Language. Topics vary and are announced in advance; both students and faculty suggest ideas. May be repeated as the topic varies. Primarily for undergraduates. Prerequisite: consent of instructor.

Japanese Courses (JPN)

131-8 (4,4) Elementary Japanese. Emphasis on basic skills of listening, speaking, reading, and writing. No previous knowledge of Japanese is required. Must be taken in a,b sequence.

201-8 (4,4) Intermediate Japanese. [IAI Course: (b) H1 900] Development of listening, speaking, reading, and writing skills on the intermediate level. Must be taken in a,b sequence. Prerequisite: 131b or equivalent.

305-2 to 4 (2,2) Individualized Language Study. Designed to improve language skill beyond the intermediate level. Tailored to the particular needs of students. Prerequisite: 201b or equivalent.

320-8 (4,4) Advanced Japanese. Further development of listening, speaking, reading, and writing skills on the advanced level. Emphasis on developing proficiency in reading modern Japanese through cultural readings. Must be taken in a,b sequence. Prerequisite: 201b or equivalent.

321-2 Conversational Japanese. Practice in spoken Japanese and practical writing skills (e.g., writing memos, letters, notes). Activities include practice of routines of Japanese etiquette, discussions of Japanese television and film, prepared and impromptu group discussion and speeches, writing and performing a play in Japanese. Not open to native speakers without permission. Prerequisite: 201a or consent of instructor.

360-3 Reading and Writing Japanese. Practice in reading Japanese for comprehension and writing for practical communication. Introduces a variety of written media (e.g., Japanese comic books, newspaper, magazines, children's books, school textbook) and teaches the fundamentals of Japanese word processing. Taught primarily in Japanese. Prerequisite: 201b or the equivalent.

370-3 Contemporary Japan. A study of customs, habits, beliefs, values and etiquette in Japanese culture. Instruction in English. Prerequisite: Foreign Languages and Literatures 102 or consent of instructor.

375-1 to 6 Travel Study in Japan. Supervised travel-study in Japan. Prerequisite: consent of faculty.

390-1 to 6 Independent Study in Japanese. Directed individual study of some question, author, or theme of significance in the field of Japanese literature, language, or culture. Prerequisite: consent of instructor.

410-3 The Linguistic Structure of Japanese. (Same as Linguistics 412.) Inductive approach to the analysis of various aspects (such as phonology, morphology, syntax) of Japanese grammar with emphasis on syntactic structures within any of the current theoretical frameworks such as pragmatics, functionalism and formal linguistics. May include contrastive analysis between Japanese and English, and close examination of theories of comparative-historical linguistics of Japanese and Korean. Prerequisite: One year of Japanese or one previous course in linguistics or consent of instructor.

435-3 Business Japanese. An introduction to the language and culture of the Japanese business world and to the structure of the Japanese business economy. The emphasis will be on learning appropriate levels of formality and politeness in oral communication and on achieving competency in the specialized language of business. Prerequisite: 320a,b or equivalent.

490-1 to 6 Advanced Independent Study in Japanese. Directed individual study of some questions, author, or theme of significance in the field of Japanese literature, language, or culture. Prerequisite: consent of instructor.

Russian Courses (RUSS)

136-8 (4,4) Elementary Russian. Emphasis on basic skills of listening, speaking, reading, and writing. No previous knowledge of Russian required. Must be taken in a,b sequence.

201-8 (4,4) Intermediate Russian. [IAI Course: (b) H1 900] Continuation of the language structure with practice in oral and written Russian. Must be taken in a,b sequence. Prerequisite: 136 or two years of high school Russian or equivalent.

220-4 (2,2) Intermediate Russian Conversation. Practice of oral skills on the intermediate level. May be taken as companion course to 201a,b or with consent of instructor. Prerequisite: 136b or equivalent.

305-4 Advanced Conversation and Composition. Improvement of self-expression, oral and written comprehension, free composition and conversation; readings based on the history of Russia, as well as readings of magazine and newspaper articles. This course satisfies the CoLA Writing Across the Curriculum requirement. Prerequisite: 201 or equivalent.

306-3 Intermediate Readings in Russian. Designed to improve skills in reading selections from Russian prose. Prerequisite: 201 or equivalent.

320-3 Advanced Language Skills. A review of fine points of grammar and polishing of student's syntax. Prerequisite: grade of B or better in 201b or permission of instructor.

330-4 Introduction to Russian Literature. Reading and analysis of the texts selected from Russian literature.

350-3 Russian Phonetics. Analysis of the sounds of Russian and their manner of production; intonation and stress; levels of speech, oral practice. Prerequisite: 201b.

375-3 to 6 Travel Study in USSR. Supervised travel-study program in the USSR. Prerequisite: 201 or equivalent.

388-3 Russian as a Research Tool. Intensive study of Russian as basis for development of reading knowledge. Covers grammar and vocabulary portion of first-year sequence in basic skills. Intended for graduate students. Undergraduates who wish to enroll are encouraged to consult with course instructor.

390-1 to 6 (1 to 3, 1 to 3) Independent Study in Russian. Directed independent study in a selected area of Russian studies. Prerequisite: consent of instructor.

411-3 Russian Stylistics. Writing styles in Russian and its application to the development of skills in written expression. This course satisfies the CoLA Writing Across the Curriculum requirement.

415-3 Russian Linguistic Structure. Structural analysis of present-day Russian with special attention to morphology and syntax.

430-4 Business Russian. A study of the style of commercial language and its application to the development of skill in business correspondence, such as: inquiries, offers, orders, contracts, agreements, as well as documents concerning transport, insurance, and customs. Prerequisite: 201 or equivalent.

465-3 Soviet Russian Literature. Major fiction writers and literary trends since 1917. Lectures, readings, and reports.

470-3 Soviet Civilization. Soviet culture and civilization is studied primarily through literary works, journalistic materials, and excerpts from non-literary works as general background reading. Lectures are illustrated with maps, slides, films and art works. Taught in English. Readings are in English and in bilingual edition. No prerequisite: May count toward Russian major with consent of graduate adviser.

475-2 to 3 Travel-Study in USSR. Specialized course comprising part of the travel-study program in the Union of Soviet Socialistic Republics. Prerequisite: 201 or equivalent.

480-4 Russian Realism. Authors in 19th century Russian literature. Special attention to stylistic devices. Lectures, readings, and individual class reports.

485-3 Russian Poetry. A study of literary trends and representative works of Russian poets.

488-3 Advanced Russian as a Research Tool. Concentrated and individualized training in the recognition and interpretation of basic and complex grammatical structures and in the systematic acquisition of the principles of word formation for vocabulary expansion. Techniques for intensive and extensive readings and for translation of unedited texts in the student's own field of study. Intended for graduate students. With consent of student's department, and with a grade of B or A, satisfies graduate program requirement for foreign languages as a research tool. Prerequisite: 388 or one year of Russian or equivalent.

490-1 to 6 Advanced Independent Study in Russian. Directed independent study in a selected area of Russian studies. Prerequisite: consent of instructor.

493-3 to 9 (3 per topic) Seminars in Special Topics in Literature and Language. Topics vary and are announced in advance; both students and faculty suggest ideas. Students taking the course for graduate credit will do a critical study of one aspect. May be repeated as the topic varies. Prerequisite: consent of instructor.

Spanish Courses (SPAN)

140-8 (4,4) Elementary Spanish. The basic skills of listening, speaking, reading, and writing. No previous knowledge required. Must be taken in a,b sequence.

175-5 Accelerated Elementary Spanish. Elementary Spanish covered in one semester. The basic skills of listening, speaking, reading, and writing. Prerequisite: one year of high school Spanish or equivalent or permission of instructor.

201-8 (4,4) Intermediate Spanish. [IAI Course: (b) H1 900] Continued development of the four basic language skills. Must be taken in a,b sequence. Prerequisite: 140b or 175 or two years of high-school Spanish.

220-2 Intermediate Spanish Conversation. Practice in spoken Spanish. Prepared and impromptu group discussions on general topics and everyday situations. Frequent short talks by students. May be repeated once for credit toward major. Prerequisite: 140b or 175 or two years of high-school Spanish.

273-2 Study in Spain or Latin America. Course taught as part of the summer study abroad program. Prerequisite: one year of college Spanish, or the equivalent.

305-2 Advanced Conversation. Improvement of self-expression and aural comprehension. Expansion of vocabulary and idioms in Spanish. May be repeated once for credit toward major. Prerequisite: 201b or equivalent or consent of instructor.

306-3 Intermediate Readings in Spanish. Designed to improve reading skills in Spanish. Prerequisite: 201b or equivalent.

310-3 Spanish Literature. Study of selected major works. Prerequisite: 306.

315-3 Spanish American Literature. Literature in Spanish America during the 19th and 20th centuries. Prerequisite: 306.

320-4 Third-Year Grammar and Composition. Extensive practice in translation and composition; special attention to grammar problems, idiomatic expressions, and syntactical features. This course satisfies the CoLA Writing Across the Curriculum requirement. Prerequisite: grade of B or better in 201b or permission of instructor.

335-3 Introduction to Business Spanish. The language of the Hispanic business community in readings, correspondence, and documents. Prerequisite: 320.

370-3 Spanish Culture and Civilization. The cultural patterns and heritage of the Spanish people from earliest times to the present. Class discussion in Spanish will be emphasized in order to improve conversational skills. Prerequisite: 201b or equivalent.

371-3 Spanish-American Culture and Civilization. A survey of the cultural heritage of the Spanish-American peoples. Class discussion in Spanish will be emphasized in order to improve conversational skills. Prerequisite: 201b or equivalent.

390-1 to 4 (1 to 2, 1 to 2) Independent Study in Spanish. Individual exploration of some question, author, or theme of significance within the field of Spanish literature, language, or culture. Prerequisite: consent of instructor.

410-3 Advanced Language Study. Intensive writing practice with emphasis on style, organization, and problematic aspects of grammar. This course satisfies the CoLA Writing Across the Curriculum requirement. Prerequisite: 320.

411-3 Linguistic Structure of Spanish. (Same as Linguistics 414.) Theory and practice in Spanish pronunciation and study of Spanish grammatical structure, in contrast to English, with application to teaching.

412-3 History of the Spanish Language. Survey of internal and external history, from Vulgar Latin to Modern Spanish.

425-3 Spanish Literature Before 1700. The literature from Spain from its beginnings in the Middle Ages through the Golden Age. Prerequisite: 310 or 315, consent of instructor or graduate standing.

430-3 The Golden Age: Drama. Plays of Lope de Vega, Calderon, Tirso de Molina, and others. Prerequisite: 310 or 315, consent of instructor or graduate standing.

431-3 Cervantes. *Don Quixote*. Prerequisite: 310 or 315, consent of instructor or graduate standing.

434-3 Colonial Literature in Spanish America. Study of the literature of Spanish America before 1825. Prerequisite: 310 or 315, consent of instructor or graduate standing.

435-3 Business Spanish. Discussion and practice of the vocabulary, styles, and forms used in Spanish business correspondence, as well as report writing and documents dealing with trade, transportation, payment, banking, and advertising. Prerequisite: 320.

460-3 Spanish Literature of the 20th Century. The main currents and outstanding works in the literature of Spain since 1900. Prerequisite: 310 or 315, consent of instructor or graduate standing.

485-3 The Spanish American Short Story. Survey of the genre in Spanish America. Prerequisite: 310 or 315, consent of instructor or graduate standing.

486-3 Spanish American Drama. A survey of the development of the genre from the earliest times to the present. Prerequisite: 310 or 315, consent of instructor or graduate standing.

487-3 The Spanish American Novel. Survey of the genre in Spanish America. Prerequisite: 310 or 315, consent of instructor or graduate standing.

488-3 Advanced Spanish as a Research Tool. Concentrated and individualized training in the recognition and interpretation of basic and complex grammatical structures and in the systematic acquisition of the principles of word formation for vocabulary expansion. Techniques for intensive and extensive readings and for translation of unedited texts in the student's own field of study. Intended for graduate students. With consent of student's department, and with a grade of B or A, satisfies graduate program requirements for foreign languages as research tool. Prerequisite: one year Spanish or equivalent.

490-1 to 3 Advanced Independent Study. Individual exploration of some topic in Hispanic literature, language, or culture. Prior consent of instructor required.

493-3 to 9 (3 per topic) Special Topics in Literature and Language. Topics vary and are announced in advance. May be repeated as the topic varies. Prerequisite: consent of instructor.

Foreign Languages and Literatures Faculty

Albuxech, Lourdes, Assistant Professor, Ph.D., University of California at Riverside, 1997.

Aydt, Judith, Assistant Professor, *Emerita*, M.A., Southern Illinois University, 1966.

Bender, M. Lionel, Professor, *Emeritus*, Ph.D., University of Texas at Austin, 1968.

Betz, Frederick, Professor, Ph.D., Indiana University, 1973.

Bork, Albert W., Professor, *Emeritus*, Doctor en Letras, National University of Mexico, 1944.

Cáceres, Alejandro, Assistant Professor, Ph.D., Indiana University, 1992.

Davis, J. Cary, Professor, *Emeritus*, Ph.D., University of Chicago, 1936.

Edwards, Robert W., Associate Professor, Ph.D., University of Texas at Austin, 1988.

Fair, Janet K., Assistant Professor, Ph.D., University of Chicago, 1993.

Felton, Debbie, Assistant Professor, Ph.D., University of North Carolina, 1995.

Gobert, David L., Professor, *Emeritus*, Ph.D., University of Iowa, 1960.

Hammond, Charles E., Associate Professor, Ph.D., Columbia University, 1986.

Hartman, Steven Lee, Associate Professor, Ph.D., University of Wisconsin, 1971.

Hartwig, Hellmut A., Professor, *Emeritus*, Ph.D., University of Illinois, 1943.

Keller, Thomas, Associate Professor and Chair, Ph.D., University of Colorado, 1975.

Kilker, James, Professor, *Emeritus*, Ph.D., University of Missouri at Columbia, 1961.

Kim, Alan Hyun-Oak, Associate Professor, Ph.D., University of Southern California, 1985.

Liedloff, Helmut, Professor, *Emeritus*, Ph.D., Phillips University, Germany, 1956.

Lowe-Dupas, Hélène, Assistant Professor, Ph.D., Ohio State University, 1993.

McBride, Charles, Associate Professor, *Emeritus*, Ph.D., University of Texas, 1968.

Meinhardt, Warren, Associate Professor, Ph.D., University of California at Berkeley, 1965.

Neufeld, Anna K., Assistant Professor, *Emerita*, M.A., University of Kansas, 1937.

O'Brien, Joan, Professor, *Emerita*, Ph.D., Fordham University, 1961.

O'Bryhim, Shawn, Associate Professor, Ph.D., University of Texas at Austin, 1991.

Orechwa, Olga, Associate Professor, *Emerita*, Ph.D., Ukrainian Free University, Germany, 1970.

Sanjabi, Maryam, Associate Professor, Ph.D., University of Paris-Sorbonne, 1992.

Speck, Charles, Assistant Professor, *Emeritus*, Laurea in Diritto Canonico, Pontifical Lateran University, Italy, 1963.

Timpe, Eugene F., Professor, Ph.D., University of Southern California, 1960.

Ulner, Arnold, Assistant Professor, *Emeritus*, Ph.D., University of Missouri at Columbia, 1972.

Vogely, Maxine, Assistant Professor, *Emerita*, Ph.D., University of Illinois, 1969.

Wilkinson, Mildred, Assistant Professor, *Emerita*, M.A., Southern Illinois University, 1965.

Williams, Frederick, Associate Professor, Ph.D., Cornell University, 1976.

Winston-Allen, C. Anne, Associate Professor, Ph.D., University of Kansas, 1979.

Winters, Margaret E., Professor, Ph.D., University of Pennsylvania, 1975.

Woodbridge, Hensley, Professor, *Emeritus*, Ph.D., University of Illinois, 1950.

Forestry (Department, Major, Courses)

Two specializations are offered within the major in forestry: forest resources management and outdoor recreation resources management. University Core Curriculum requirements and a core of professional courses are similar for most specializations. Courses specifically required in the various specializations may not be taken for pass/fail credit by students majoring in the Department of Forestry. The forest resources management and outdoor recreation resources management specializations are accredited by the Society of American Foresters.

Available to the Department of Forestry for teaching and research in addition to resources present on campus are the following: the Crab Orchard National Wildlife Refuge; the Shawnee National Forest; a number of state parks and state forests; conservation areas and federal reservoirs. Collectively, these comprise more than a million acres of forest land, all in the vicinity of the University.

The curricula of the Department of Forestry prepare graduates for employment with local, state and federal natural resource agencies, as well as private industry. In addition, many graduates continue their education in advanced masters and doctoral programs. Federal agencies employing our graduates include the Forest Service, Natural Resources Conservation Service, Fish and Wildlife Service, National Park Service, Bureau of Reclamation, Bureau of Land Management, Environmental Protection Agency, Tennessee Valley Authority, and the Army Corps of Engineers. There are also employment opportunities in state government with agencies such as fish and game commissions, departments of natural resources and conservation, and forest services. At the local level, there are opportunities with urban forest and park systems. Private agencies have included Ducks Unlimited, the Nature Conservancy, the National Audubon Society and the American Forestry Association. Forestry graduates often are employed by private forestry consulting firms and by private industries such as Scott Paper Co., Weyerhaeuser Co., International Paper Co., Georgia Pacific Corporation and Westvaco.

Bachelor of Science Degree, College of Agriculture

FORESTRY MAJOR – FOREST RESOURCES MANAGEMENT SPECIALIZATION

The program in forest resources management includes instruction leading to careers in forest management and production, multiple-use resource management, and the forest products industries. The goal of the Forest Resources Management specialization is to develop individuals with sufficient understanding of the physical, biological and economic considerations required to make sound management decisions for the multiple uses of forest resources. The specialization includes areas of study recommended and accredited by the Society of American Foresters. Emphasis is upon integrated resource management of natural and renewable resources, coordinating forest utilization methods and conservation practices, and preserving our wildlands heritage. A five-week summer camp is required after the junior year to give the student practical field experience. Field study costs per student for off-campus living expenses and transportation are approximately \$175 per student and must be borne by the student. Other costs for equipment and supplies which are required for field study and certain other courses are specified in course descriptions.

University Core Curriculum Requirements	41
Requirements for Forestry Major with Forest Resources Management Specialization	89
Forestry Core: 200, 201, 202a, 202b, 310, 311, 314, 315, 331, 351, 381, 409, 410, 411, 485	38
Biology 307; Plant Biology 200; Chemistry 140a,b.....	(6) ¹ + 9
Agribusiness Economics 204 or Economics 240	(3) ¹
English 101, 102, Speech Communication 101, Mathematics 110 or 140, Mathematics 282 or Plant Biology 360 or Agribusiness Economics 318	(12) ¹ + 3
Five-week early summer field studies: Forestry 310c, 314c, 320c, 351c, 360c	7
Forestry 416	3
Plant and Soil Science 240	4
Courses selected from: Forestry 313, 320, 350, 402, 403, 405, 408, 412, 414, 418, 420, 430, 431, 451, 454, 460 Zoology 118, 468, 469	19
Restricted electives	6
Total	130

¹Hours included in total for University Core Curriculum requirements.

Forest Resources Management Suggested Curricular Guide ¹

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
CHEM 140a,b	4	4	FOR 201, 331.....	3	3
PLB 200	4	-	FOR 202a,b.....	1	1
MATH 110 or 140	-	3	PLSS 240.....	4	-
ENGL 101, 102	3	3	MATH 282, PLB 360 or ABE 318	-	3
FOR 200.....	1	-	BIOL 307 or PLB 301i	-	3
University Core.....	3	5	University Core	6	3
			SPCM 101.....	-	3
Total.....	15	15	Total.....	14	16

THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
FOR 311, 310.....	3	4	FOR 411, 381	3	1
FOR 410, 315	3	3	FOR 416, 409	3	3
Selected Elective.....	6-8	3-4	Selected Elective.....	3-4	6-8
FOR 351	-	3	Selected University Core.....	3	3
FOR 485	3	-	Restricted Elective ¹	3	3-4
FOR 314.....	-	3			
Total.....	15-17	16-17	Total.....	15-16	16-19
SUMMER CAMP	SUMMER				
FOR 310C, 320C	2, 2				
FOR 314C	2				
FOR 351C, 360C	1, 1				
Total.....	7				

¹Restricted Electives - total 6-7 hours. At least two structured courses to be selected from among the areas listed: Forest Science, Business Administration or Law and Law Enforcement; Biological Science, Physical Science, or appropriate Social Science.

FORESTRY MAJOR – OUTDOOR RECREATION RESOURCES MANAGEMENT SPECIALIZATION

The program in outdoor recreation resources management provides interdisciplinary training for management of the nation's outdoor recreation heritage. The courses offered are among those recommended by the National Recreation and Park Association and the Society of American Foresters. The goal of the Outdoor Recreation Resources Management option is to prepare students for entry into professional careers in managing and administering wildlands for outdoor recreation and park uses in a variety of agencies operating programs in diverse geographic and natural settings. The outdoor recreation resource management student travels through selected sections of the United States on a park and recreation field studies session of outdoor recreation and park facilities. The summer camp requires the student pay transportation and living expenses (approximately \$300). Other courses in this program may also require additional fees.

University Core Curriculum Requirements	41
Requirements for Major in Forestry with Outdoor Recreation Resources Management Specialization	89
Forestry Core: 200, 201, 202a, 202b, 310, 311, 314, 315, 331, 351, 381, 409, 410, 411, 485	38
Plant Biology 200, Chemistry 140a,b	(6) ¹ + 6
Agribusiness Economics 204 or Economics 240	(3) ¹
English 101, 102, Speech Communication 101, Mathematics 110 or 140, Mathematics 282 or Plant Biology 360 or Agribusiness Economics 318	(12) ¹ + 3
Plant and Soil Science 240, 328a,b, Geography 310	11
Forestry 422c (Park and Wildlands Management Camp)	4
Forestry 320, 420, 421, 423, 470	13
Select at least five hours from Forestry 405, 416, 430, Zoology 468 or 469	5-6
Restricted Electives	4-5
Total	130

¹Hours included in total for University Core Curriculum requirements.

Forestry Outdoor Recreation Suggested Curricular Guide ¹

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
CHEM 140a,b	4	4	FOR 201, 331	4	3
PLB 200.....	4	-	FOR 202a,b.....	1	1
MATH 110 or 140.....	-	3	PLSS 240, SPCM 101	4	3
ENGL 101,102.....	3	3	MATH 282 or PLB 360 or ABE 318	-	3
FOR 200.....	1	-	University Core	6	3
University Core.....	3	5	GEOG 310	-	3
Total.....	15	15	Total.....	15	16

THIRD YEAR		FALL	SPRING	FOURTH YEAR		FALL	SPRING
FOR 310	-		4	FOR 411, 381	3		1
FOR 311, 315	3		3	FOR 420, 421	3		3
FOR 410	3		-	FOR 409	-		3
PLSS 328a,b	4		-	FOR 405, 416, 430, ZOOL 468			
FOR 314	-		3	or 469	5-6		-
FOR 485, 351	3		3	FOR 423, 470	-		3, 2
FOR 320	-		2	University Core	3-4		-
University Core	3		-	Restricted Elective ¹	3		4-5
Total	16		15	Total	17-18		16-17
SUMMER CAMP		SUMMER					
FOR 422c	4						
Total	4						

¹ Restricted Electives - total 7-8 hours. At least two structured courses to be selected from among the areas listed: Forest Science, Business Administration or Law and Law Enforcement; Biological Science, Physical Science, or appropriate Social Science.

Courses (FOR)

- 200-1 Introduction to Forestry.** Acquaints students with the broad field of multiple-use forestry. Special emphasis is given to forestry as a profession. Required field trips cost \$15.
- 201-3 Ecology of North American Forests.** An introduction to forest ecology concepts, site factors, and forests of North America. Emphasis is placed on the silvics of tree species and the impact of soil, climate, and topography on forest vegetation. Forest site-community relationships of selected major North American forest ecosystems will be studied. Saturday field trip may be required at a cost not to exceed \$10. Prerequisite: Plant Biology 200, Plant and Soil Science 240, Biology 307, or consent of instructor.
- 202-2 (1,1) Tree Identification Laboratory.** A two-semester course that teaches field and laboratory identification of trees and shrubs using leaf, twig, bark, and fruit characteristics. Saturday field trips may be required. Extra costs total \$20 unless paid in 201. Must be taken in a,b sequence, unless otherwise arranged with consent of instructor. Prerequisite: Plant Biology 200.
- 310-4 Practices of Silviculture.** Detailed study of classical concepts and recently developed techniques utilized in silviculture treatment of forests. Major emphasis to be placed upon establishment, thinning, timber stand improvement, and regeneration of forest. Prerequisite: 331.
- 310C-2 Silviculture Field Studies.** Field experience for the student in the various facets of silviculture including planning, thinning, harvesting, timber stand improvement, and site-growth relationships. Offered only at summer camp. Costs for students are given in forestry description. Prerequisite: 331 and 310.
- 311-3 Resources Photogrammetry.** The science and art of obtaining reliable measurement by means of photographs, detection of disease, insects, and fire invasion by remote sensors; and delineation of resources boundaries through interpretation.
- 313-3 Harvesting Forest Crops.** Emphasis is given to lumber sale layouts, sale contracts, and harvest engineering methods. Consideration is given to the environmental impacts of harvesting. Additional cost: \$25. Prerequisite: 310 and 312.
- 314-3 Insect, Abiotic, and Other Stresses Within the Forest.** The impact, recognition, and control of destructive forces within the forest environment. Emphasis placed upon stresses due to climatic factors, macro-parasitic plants, chemical injury, pollution, animal damage, and forest insect pests. Prerequisite: 331, Plant Biology 200, and Zoology 118 or consent of instructor.
- 314C-2 Forest Protection Field Studies.** The prevention and suppression of forest fires, the recognition and control of insect and disease organisms and other destructive agents in the forest. Summer camp only. Cost per student given in the forestry description. Requires additional expenses of approximately \$20 per student. Prerequisite: 331 and two of the following: 314, 315, Plant Biology 357.
- 315-3 Fire in Wildland Management.** Fire as a phenomenon in wildland management. Topics covered are fire prevention, detection, suppression, behavior, effects, use, and economics. Major emphasis is on fire control and fire ecology. Prerequisite: 331.
- 320-2 Introduction to Forest Recreation.** Trends in outdoor recreational use of wildlands and natural areas with emphasis on state and federal parks and forests. Introductory concepts in recreation resources management, visitor impact assessment and environmental interpretation.
- 320C-1 Forest and Wildlands Recreation Field Studies.** Recreation of forest and adjacent lands with emphasis on parks and national forests. Administration; interpretation; trends in use and development. Offered only at spring camp (costs per student are given in the forestry description). Requires supplemental purchases of approximately \$2 per student.
- 331-3 Forest Ecosystems.** An analysis and integration of tree growth and of forest structure, material and energy flow, and classification in relation to climatic and edaphic factors to provide an ecological basis for management of forest ecosystems. Prerequisite: 201, 202, Biology 307, Plant and Soil Science 240.
- 341-3 Forestry Practices.** The fundamentals of integrated resource management of timberlands. Management systems, tree stand measurements. Planting and harvesting methods, multiple-use aspects of forest lands. Field trips. Emphasis on small forest ownerships. Not for graduation credit in forest resource's management option.

350-3 Woods as a Raw Material. Structure, identification, and properties of wood. Important species, significance of properties to end-use and significance of wood to the environment.

351-3 Forest Resources Measurements. Introductory measurement, statistical and data processing concepts; volume, growth, and yield of forest products; methods of sampling forest resources. Field trips. Prerequisite: Mathematics 140 and 283.

351C-1 Forest Resources Measurements Field Studies. Methods of determining volume and quality of forest products, forest resource inventory procedures, growth, and productivity studies. Field trips. Prerequisite: 351.

360C-1 Forest Industries Field Studies. A study of primary and secondary forest product processing in the central hardwood region. Course requires field trips. Estimated trip costs \$50.

381-1 Forestry Seminar. Presentation of topics pertinent to multiple-use management and utilization of forest resources. Prerequisite: senior standing.

391-1 to 4 Special Problems in Forest Resources. Independent research sufficiently important to require three hours per week of productive work for each hour of credit.

401-3 Fundamentals of Environmental Education. (See Agriculture 401.)

402-3 Wildland Hydrology. Fundamentals of hydrology as related to forest and wildland water resources will be emphasized. Considerations will include the hydrologic cycle with emphasis on soil and groundwater regimes, evapotranspiration, surface and subsurface runoff, and the quantity and timing of water yield. Offered spring semester odd years.

403-3 Intro to Agroforestry. This introductory, lecture-discussion course will examine the various agroforestry concepts, systems, technologies and practices. Focus will be on the potential use and benefits of agroforestry, which involves the deliberate combining of woody perennials with herbaceous/agronomic crops and/or animals, on the same land management unit, in some form of spatial arrangement and/or temporal sequence to produce desirable ecological and economical interactions among the different components. Prerequisite: junior standing or consent of instructor.

405-2 Forest Management for Wildlife. Interrelations between forest practices and wildlife populations. Emphasis is on habitat requirements of different wildlife species and ways to manipulate the forest to improve wildlife habitats. Prerequisite: forestry major, or consent of instructor.

408-4 Introduction to Remote Sensing and Geographic Information Systems. Introduction to the important characteristics of platforms and sensor systems used in modern remote sensing applications to forestry and the storage, analysis and display of this information by micro computers using vector and raster GIS configurations. Prerequisite: 414 and advanced standing.

409-3 Forest Resources Decision-Making. Examines management planning decision-making for multiple-use forests particularly in the public sector. Reviews concepts useful for analyzing flow-resource problems, emphasizing systems approaches, introduces use of modern quantitative methods to evaluate resource use alternatives. Case studies. Prerequisite: 411, Mathematics 140.

410-3 Forest Resources Administration and Policy. Nature of administrative organizations and influences on behavior of organization members. Society influences causing changes in forestry related organizations. Policy formation and implementation, including roles of special interest groups.

411-3 Forest Resources Economics. Application of Micro- and Macro-economic principles to forest timber and non-timber production; capital theory, benefit-cost analysis; and economics of conservation. Prerequisite: Mathematics 140 and Economics 240 or Agribusiness Economics 204.

412-2 Tree Improvement. Basic theories and techniques of obtaining genetically superior trees for forest regeneration. Prerequisite: senior standing.

414-3 Information Management. The collection of physical, biological, and social variables in the field of forestry through sampling survey. The procedures of data manipulation and calculation and the presentation of graphs and tables.

416-3 Forest Resource Management. The application of business procedures and technical forestry principles to manage forest properties. Emphasis on integrated resource management for tangible and intangible benefits. Field trips and supplemental purchases approximately \$25 for student. Prerequisite: summer camp or consent of instructor.

417-2 Forest Land-Use Planning. Principles of location theory as a basis for determining land use; supply of forest land; population pressure and demand; conservation principles; determination of forest land values; institutional factors influencing forest land-use; forest taxation; special taxes, and capital gains. Taught in alternate years. Prerequisite: 411 or consent of instructor.

418-2 Marketing of Forest Products. The role of marketing in the forest industries; review of economic principles; product policy, planning the product line, pricing, marketing channels, marketing programs, marketing organization, and marketing research as influences on the marketing of lumber, wood products, pulp, and paper. Taught in alternate years. Prerequisite: 411 or consent of instructor.

420-3 Park and Wildlands Management. The management of state and federal parks and recreation areas. A systems approach toward management and decision-making will be emphasized. Requires supplemental purchases of approximately \$5 per student. Prerequisite: 320c.

421-3 Recreation Land-Use Planning. Principles and methods for land-use planning of park and recreation environments with emphasis on large regional parks. Focus on planning process and types of information to gather and organize. Application in group field projects. Prerequisite: 320, 420, or consent of instructor.

422C-4 Park and Wildlands Management Camp. A study of park conditions, visitors, and management practices at selected county, state, and federal park systems in the United States, including the federal wilderness preservation system. Course requires a field trip and supplemental purchases. Prerequisite: 320 and 320c and consent of instructor.

423-3 Environmental Interpretation. (See Agriculture 423.)

428-2 Community Forestry. An introduction to principles and practices useful in the management of trees and forests in populated settings. Emphasis is placed on the development of comprehensive management strategies consistent with the biological, physical, economic and social constraints of the urban environment. Prerequisite: junior or senior standing or permission of the instructor.

430-3 Wildland Watershed Management. Emphasis is placed on the principles, technical problems, procedures, alternatives, and consequences encountered in managing wildland watersheds for the production of quality water in harmony with other uses. Prerequisite: 331.

431-3 Regional Silviculture. Designed to evaluate the various silvicultural practices as they are commonly employed in various regions of the United States. Offered alternate years. Prerequisite: 310.

451-2 Natural Resources Inventory. Theory and practical problems in biometrics to obtain estimates of natural resource populations. Use of computers and other advanced techniques. Case studies of inventory procedures. Field trip cost — maximum \$20. Prerequisite: 351 or consent of instructor.

452-2 Forest Soils. Characterization and fundamental concepts of forest soils and their relationships to forest communities and forest management practices. Emphasis is on the origin of forest soil material, soil forming processes, and the chemical, physical, and biological properties of soils as related to forests and forest management. Prerequisite: Plant and Soil Science 240 and concurrent enrollment in Forestry 452. Spring semester even years.

452L-2 Forest Soils Laboratory. Companion laboratory for 452. Emphasis is on methods to characterize and evaluate the chemical, physical, and biological properties of forest soils. Prerequisite: Plant and Soil Science 240 and concurrent registration in Forestry 452. Spring semester even years.

453-2 Environmental Impact Assessment in Forestry. Methods of assessing the environmental impact of land-use systems on forest resources and assessing the impact of forest management systems on environmental quality are presented. Case studies culminating in the preparation of environmental impact statements are emphasized. Field trips cost, \$20. Prerequisite: senior standing in a natural resource major.

454-2 to 8 Forest Ecology Field Studies. A study of forest communities, soils, and site conditions in one of the following ecosystems: (a) Boreal; (b) lake states; (c) Southern Appalachians; (d) Southern pine. Course requires a field trip of about 10 days. Each trip is two semester credits; a maximum of 6 credits may be applied toward graduate credit. Estimated cost \$125.00 per trip. Prerequisite: senior standing in natural resources or biological sciences, courses in tree identification, forest ecology, and soils, and consent of instructor.

460-2 Forest Industries. Analysis of raw material requirements, the processes and the products of forest industries. The environmental impact of each forest industry will also be discussed.

470-2 Wilderness Management, Policy, and Ethics. Study of current management philosophy and practice in America's wilderness. Analysis of current wilderness policy and its historical evolution. Discussion of the evolution of the wilderness idea and the individuals that have influenced it. Weekend field trip required. Prerequisite: 320 or consent of instructor.

480-3 Natural Resource Advocacy. Examines the role and methods of interest groups in influencing natural resource policies. Emphasis on applied methods, techniques and strategies for achieving interest group objectives in natural resource management. Prerequisite: junior standing or consent of instructor.

485-3 Social Influences on Forestry. Study of, and practice in, methods used for effecting social change in forestry and allied natural resource fields. Case studies, readings and survey research methodology are used to develop an understanding of the role of public opinion in ecologically sound natural resource decision making. Prerequisite: senior standing, and a course in statistics.

490A-2 Resources Management Consortium. Intensive field course in resources management decision making. Student serves as team member in solving resource problems in forestry, wildlife management, recreation, and interpretation at Land Between the Lakes. Enrollment is limited to six. Course taught at Land Between the Lakes. Cost of room and board not to exceed \$100. Not for graduate credit. Prerequisite: consent of instructor.

492-1 to 4 Special Studies for Honor Students. Research and individual problems in forestry. Not for graduate credit. Prerequisite: consent of the department chair and a 3.0 minimum grade point average.

494-1 to 6 Practicum. Supervised practicum in a professional setting. Emphasis on administration, supervision, teaching and program leadership in community, school, park, forest, institution, and public or private agencies. Students should enroll according to their curriculum specialization: (a) Forest environmental assessment, (b) outdoor recreation resource management, (c) forest resources management. Prerequisite: consent of instructor.

Forestry Faculty

Aubertin, Gerald M., Associate Professor, *Emeritus*, Ph.D., Pennsylvania State University, 1964.

Budelsky, Carl A., Assistant Professor, *Emeritus*, Ph.D., University of Arizona, 1969.

Burde, John H., III, Professor, Ph.D., University of Arizona, 1975.

Carver, Andrew D., Assistant Professor, Ph.D., Purdue University, 1998.

Chilman, Kenneth C., Associate Professor, *Emeritus*, Ph.D., University of Michigan, 1972.

Fralish, James S., Associate Professor, *Emeritus*, Ph.D., University of Wisconsin, 1970.

Groninger, John W., Assistant Professor, Ph.D., Virginia Polytechnological Institute, 1995.

Kung, Fan H., Professor, Ph.D., Michigan State University, 1968.

Mangun, C. Jean, Assistant Professor, Ph.D., Purdue University, 1991.

McCurdy, Dwight R., Professor *Emeritus*, Ph.D., Ohio State University, 1964.

Myers, Charles C., Associate Professor, *Emeritus*, Ph.D., Purdue University, 1966.

Phelps, John, Professor and Chair, Ph.D., University of Missouri, 1980.

Roth, Paul L., Professor, Ph.D., Kansas State University, 1968.

Unger, Daniel R., Assistant Professor, *Emeritus*, Ph.D., University of Idaho, 1995.

Zaczek, James J., Assistant Professor, Ph.D., The Pennsylvania State University, 1994.

General Agriculture (Major, Courses)

The General Agriculture major is administered through the Plant, Soil and General Agriculture Department. The General Agriculture program includes three specialized areas of study.

The primary objectives of this major are (1) to provide broad, basic academic preparation in agriculture for the specializations of the major, or for the undecided agriculture major, by requiring all students to complete an extensive core of agriculture classes, distributed among four of the departments of the College of Agriculture and (2) to provide the quality academic and professional preparation necessary for success in the several career fields of the three specializations. The following statements identify typical career opportunities for persons completing the respective specialization.

Agricultural Education and Information Specialization. This specialization is intended for those students who plan to be involved in agricultural programs in communication, extension, post-secondary educational institutions and industry. Professional training for certification as a teacher of applied biological and agricultural occupations in secondary schools is available.

Agricultural Technologies. Agriculture Technologies specialist pursue careers which include the application, utilization and management of technology in the industry of agriculture.

Agricultural Production Specialization. This specialization provides basic preparation for many agriculture careers in farming and in production-agriculture related positions in agricultural services, agricultural business and agricultural industry. Qualified candidates for the Capstone Option are accepted in the major. For a number of courses taught in the major, there will be additional charges for field trips, laboratory manuals, or supplies.

Bachelor of Science Degree, College of Agriculture

GENERAL AGRICULTURE MAJOR – AGRICULTURAL EDUCATION AND INFORMATION SPECIALIZATION WITH AN AGRICULTURAL EDUCATION OPTION

<i>University Core Curriculum Requirements</i>	41
To include ENGL 101, 102 and 121 or 204; SPCM 101; MATH 110, 113 or approved substitute; HIST 101a or approved substitute; HIST 110; AD 101, HIST 201, MUS 103 or THEA 101; POLS 114; CHEM 106; PLB 115; ANTH 202, HIST 202, 210 or SOC 215; Interdisciplinary Studies elective (humanities area); HED 101 or PE 101.	
<i>Requirements for Agricultural Education Option</i>	71
General Agricultural Core Classes	20
Agribusiness Economics 204	3
General Agriculture 170, 314, 318	10
Animal Science 121, 122	4
Plant and Soil Science 200	3
General Agriculture 311a, 311b and Agriculture 323	8
Agriculture or Forestry electives	12
Professional Education Requirements (See College of Education)	28

Psychology 102	3	
Electives		8
Total		120

Agricultural Education Option Suggested Curricular Guide

FIRST YEAR			SECOND YEAR		
	FALL	SPRING		FALL	SPRING
PLB 115, CHEM 106	3	3	Select Core	6	4
Select Core	-	6	PSYC 102, POLS 114	3	3
ENGL 101, 102	3	3	SPCM 101	3	-
MATH 108	3	-	ABE 204	-	3
HED 101/PE 101	2	-	GNAG 314	3	-
GNAG 170	-	4	PLSS 200	-	3
ANS 121, 122	3, 1	-	English 121 or 204	-	3
Total	15	16	Total	15	15
THIRD YEAR			FOURTH YEAR		
	FALL	SPRING		FALL	SPRING
Non-Western History Core	3	-	AG Elective	4	-
GNAG 318	3	-	EDUC 316	2	-
AG Electives	5	4	EDUC 317	2	-
EDUC 308	3	-	GNAG 311b	3	-
EDUC 310	2	-	AGRI 323	2	-
EDUC 311	-	2	AG Elective	3	-
EDUC 314	-	2	EDUC 401	-	12
EDUC 315	-	3			
GNAG 311a	-	3			
Total	16	15	Total	16	12

GENERAL AGRICULTURE MAJOR – AGRICULTURAL EDUCATION AND INFORMATION
SPECIALIZATION WITH AN OPTION IN AGRICULTURAL INFORMATION

University Core Curriculum Requirements	41
To include Chemistry 106, Plant Biology 115, Sociology 108 or Psychology 102.	
Agricultural Information Option Requirements	46
General Agricultural Core Classes	20
Agribusiness Economics 204	3
General Agriculture 170, 314, 318	10
Animal Science 121, 122	4
Plant and Soil Science 200	3
Agribusiness Economics elective	3
General Agriculture 311a, 418, Agriculture 323	8
Animal Science elective	3
Plant and Soil Science elective	3
Two additional courses, one in speech and one in writing, beyond University Core Curriculum requirements.	6
Agriculture or Forestry electives	3
Electives	33
Total	120

Agricultural Information Option Suggested Curricular Guide

FIRST YEAR			SECOND YEAR		
	FALL	SPRING		FALL	SPRING
PLB 115, CHEM 106	3	3	SOC 108 or PSYC 102	3	-
Select Core	3	6	Select Core	3	3
ENGL 101, 102	3	3	SPCM 101	3	-
MATH 108	3	-	ABE 204, GNAG 314	3	3
GNAG 170, ANS 121	3	4	PLSS 200	-	3
ANS 122	1	-	Select	3	6
Total	16	16	Total	15	15

THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
GNAG 318	3	-	AGRI 323	2	-
GNAG 311a	-	3	ANS Elective.....	-	3
2nd Speech.....	3	-	Horticulture Elect.....	3	-
ABE Elective	-	3	PLSS Elective	-	3
Elective	6	7	Elective	6	8
AG Elective	3	-	Writing Course	3	-
PHSL 201.....	-	2			
<i>Total</i>	15	15	<i>Total</i>	14	14

GENERAL AGRICULTURE MAJOR—AGRICULTURAL TECHNOLOGIES SPECIALIZATION

University Core Curriculum Requirements 41

To include Chemistry 106, Plant Biology 115, three hours of Physical Science and Mathematics 108 or higher.

Agricultural Mechanization Specialization Requirements 43

General Agricultural Core Classes 20

Agribusiness Economics 204 3

General Agriculture 170, 314, 318 10

Animal Science 121, 122 4

Plant and Soil Science 200 3

Select 14 hours from the following courses: Agricultural General Agriculture 362 and 363, 371, 372, 374, 384, 402b, 472, 473, 476, 483 14¹

Plant and Soil Science or Forestry elective 3

Physical Science beyond the University Core Curriculum requirements 3

Agriculture or Forestry elective 3

Electives 36

Total 120

¹Must include at least nine semester hours of 400 level courses.

Agricultural Technologies Specialization Suggested Curricular Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
Select Core	3	2	Select Core.....	6	6
ENGL 101, 102.....	3	3	SPCM 101	-	3
GNAG 170	-	4	ABE 204, PLSS 200	3	3
ANS 121	3	-	Select Elective	6	3
ANS 122	1	-			
MATH 108, CHEM 106.....	3	3			
Physical Science	-	3			
<i>Total</i>	13	15	<i>Total</i>	15	15
THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
GNAG 372	3	-	GNAG 483	3	-
GNAG 318, 373	3	3	GNAG 476.....	-	3
GNAG 384	3	-	Select 400 (Ag Mech)	-	6
Physics.....	-	3	Select (Ag or Other)	12	6
GNAG 314	3	-			
Select (Agem Mech)	-	3			
PLB 115.....	3	-			
Select Agem or Ag Elective	-	8			
<i>Total</i>	15	17	<i>Total</i>	15	15

GENERAL AGRICULTURE MAJOR—AGRICULTURAL PRODUCTION SPECIALIZATION

University Core Curriculum Requirements 41

To include Zoology 118, Mathematics 108 or higher and a substitute of three hours of Chemistry 140a.

Agricultural Production Specialization Requirements 50

General Agricultural Core Classes 20

Agribusiness Economics 204 3

General Agriculture 170, 314, 318 10

Animal Science 121, 122	4
Plant and Soil Science 200	3
Plant Biology 200	4
Chemistry 140a and 140b	(3) + 5 ¹
Zoology 118	(3) + 1 ¹
Select 18 hours with 6 semester hours in each of three of the four following areas	18 ²
A. Agribusiness Economics including either 350 or 351	6
B. General Agriculture including 372 or 384	6
C. Animal Science 315 or 331 plus one production course	6
D. Plant and Soil Science 240 plus one production course	6
Agriculture or Forestry electives	2
Electives	29
Total	120

¹Hours in parenthesis substitute into the University Core Curriculum.
²Must include at least 9 semester hours of 400 level courses.

Agricultural Production Specialization Suggested Curricular Guide

FIRST YEAR		FALL	SPRING	SECOND YEAR		FALL	SPRING
ZOOL 118	4	-	-	Select Core	5	6	6
Select Core	-	6	6	SPCM 101	-	-	3
ENGL 101, 102	3	3	3	ABE 204	-	-	3
GNAG 170	-	4	4	GNAG 372	-	-	3
ANS 121	3	-	-	CHEM 140b	4	-	-
ANS 122	1	-	-	PLB 200	4	-	-
MATH 108	3	-	-	PLSS 200	3	-	-
CHEM 140a	-	4	4				
Total	14	17	17	Total	16	15	15
THIRD YEAR		FALL	SPRING	FOURTH YEAR		FALL	SPRING
ABE 350 or 351	3	-	-	Select Ag or Other	3	7	7
ANS 315 or 331 or PLSS 240	-	3-4	3-4	GNAG 476	-	-	3
GNAG 318	3	-	-	GNAG 483	3	-	-
GNAG 314	3	-	-	ABE Elective	3	3	3
Select Core	3	-	-	ANS Elective	3	-	-
AG Elective	-	6	6	PLSS Elective	3	-	-
GNAG Elective	-	3	3	GNAG Elective	3	-	-
Elective (ABE, ANS or PLSS)	3	3	3				
Total	15	15-16	15-16	Total	15	13	13

Minor

A minor in General Agriculture is offered. A minor consists of 15 semester hours of credit. Normally 12 hours must be taken at Southern Illinois University Carbondale. An adviser within the department must be consulted before selecting this field as a minor.

Courses (GNAG)

- 170-4 Introduction to Physical Principles in Agriculture.** An analytical introduction to physical and mechanical principles related to agricultural land measurement, power and machinery, electricity and electronics, structures, environment and handling of agricultural materials.
- 180-1 to 2 (1,1) Introduction to Agricultural Communications Experience.** Study, observation and participation in (a) agricultural news activities, (b) graphic/photographic activities of an agricultural extension communication office. Prerequisite: consent of instructor.
- 257-1 to 10 Work Experience.** Credit for on-campus work experience through a cooperative program developed between the department and the Financial Aid Office. Prerequisite: consent of chair. Mandatory Pass/Fail.
- 258-1 to 30 Past Work Experience.** Credit for career related employment based on the evaluation of the documentation of this experience by the Department of General Agriculture. No grade for past work experience. Prerequisite: consent of chair.
- 311-6 (3,3) Agricultural Education Programs.** Nature and scope of the different programs involved in teaching agricultural occupations and methods of developing them.
- 314-3 Agricultural Information Programs.** Preparation for an agricultural information internship; an in-depth study into the nature, scope, integral parts, and methods of a total agricultural information program.
- 318-3 Introduction to Computers in Agriculture.** An introductory course about the use and role of computers

in agriculture. The major thrust includes a basic understanding and application of micro-computers in agriculture with special emphasis on how to save time, money, and increase efficiency in agriculture.

359-1 to 6 Intern Program. Supervised work experience in either an agricultural agency of the government or agribusiness. Prerequisite: junior standing or consent of instructor. Mandatory Pass/Fail.

362-3 Small Engines and Power Equipment. A basic agricultural power course emphasizing engine principles, service and application of light power equipment such as lawn and garden, machines, power units, chain saws and small tractors.

363-3 Applied Agricultural Electricity. The course is intended to develop a working knowledge and basic skills in the application and use of the National Electric Code and Agricultural Wiring Handbook for electrical service systems. Both single and three phase electrical, service, circuits and automated systems will be planned and constructed. Safety is emphasized.

364-3 Leadership of Youth and Peer Groups. (See Workforce Education and Development 364.)

371-2 Surveying and Planning. Surveying, mapping, land measurement, contouring, planning waterways and terraces and other water control structures used in the development and conservation of forests and agricultural land.

372-4 Agricultural Production Machinery Management. A machinery management course related to capacities, application, operation, safety, performance, adjustments, calibration and maintenance. Problem solving is emphasized. Prerequisite: 170.

374-2 Applied Graphics. Fundamentals of interpreting graphic illustrations, sketching, drawing, and lettering in agriculture, forestry, and landscape design.

380-1 to 2 (1,1) Agricultural Communications Seminar. Readings, discussions, and activities related to (a) current problems, issues, and practices in agricultural communication, (b) career opportunities, professional development, and ethical standards in agricultural communication. Prerequisite: junior and senior standing and consent of instructor.

381-1 to 4 (1,1,1,1) Agricultural Seminar. Discussion of special topics and/or problems in the field of agricultural education and mechanization. Prerequisite: junior standing and consent of department.

384-3 Agricultural Shop and Construction Processes. Principles of shop organization and safety; tool and equipment utilization as related to hot and cold metals, woodworking, plumbing, and concrete construction. There is a \$15 additional charge for this course.

388-1 to 16 (1 to 8 per semester) International Studies. Course work undertaken as part of an approved University residential study program abroad. May be taken for a maximum of eight semester hours per semester and may be repeated for a maximum of 16 semester hours. Prerequisite: major department or program approval.

390-1 to 4 Special Studies in Agricultural Education and Technologies. Assignments involving research and individual problems. Field trips. Prerequisite: consent of chair.

391-1 to 4 Honors in Agricultural Education and Technologies. Completion of honors paper and comparable project under the supervision of one or more faculty members. Subject matter depends upon the needs and interests of the student. Prerequisite: junior, gpa 3.0 with a 3.25 in major; approval of staff member, department chair.

402-1 to 12 (1 to 6 per topic) Problems in Agricultural Education and Technologies. (a) Agriculture education, (b) agriculture mechanization. Designed to improve the techniques of agricultural education and mechanization workers through discussion, assignment, and special workshops on problems related to their field. Emphasis will be placed on new innovative and currently developed techniques for the field. A limit of six hours will be counted toward graduation in master's degree program. Not for graduate credit. Prerequisite: consent of chair.

411-3 Program Development in Agricultural Extension. Principles and procedures in developing extension programs with emphasis on program determination and methods. Prerequisite: junior standing.

412-3 Methods of Agriculture Mechanization. Theory and use of educational materials and devices adaptable to the needs and interests of educators involved in agricultural mechanization laboratories. There is a \$15 laboratory fee for this course.

414-3 Adult Education Procedures, Methods, and Techniques. Determining adult education needs and interests of the community. Securing and organizing the information needed for adult education programs and planning teaching activities.

415-3 Beginning Teacher Seminar. The application in the professional field setting, of principles and philosophies of the education system. Includes application of principles of curricula construction, programming student and community needs. Prerequisite: consent of instructor.

418-3 Applications of Integrated Software/Agriculture. Design of agricultural or educational applications of integrated software. Spreadsheet, database, word processing, graphic and communications software will be applied to the solution of agricultural problems. Individual student projects will be the focus of the applied nature of the class. Prerequisite: junior standing or consent of instructor.

472-2 Precision Agriculture. A study of the basic principles of the Global Positioning System and how that system along with currently available and emerging technologies is applied to the intensive management of production agriculture resources. Prerequisite: junior standing.

473-3 Planning Agricultural Electrical Systems. Design and plan the efficient application of electrical service to agricultural buildings and operations. National electric and local code requirements and safety are emphasized. Prerequisite: 170 or equivalent.

474-3 Advanced Agricultural Structures. A study of design characteristics, construction, methods, and environmental control applicable to agricultural structures. Design construction and environment are considered from the standpoint of the function of the building of an agricultural enterprise. Prerequisite: 384 or equivalent.

476-3 Agricultural Safety and Health. Analysis of safety and health issues important to managers and supervisors in agricultural operations. Topics include agricultural accident data, causes and effects of accidents, hazard identification, strategies for accident prevention, response to accidents, and health risks and safeguards. Developments and documentation of accident and illness prevention activities in the workplace. Prerequisite: junior standing.

483-3 Agricultural Materials Handling, Processing, and Storage. Arrangement of systems for animal waste disposal, feed handling and processing, and storage of agricultural products. Prerequisite: 373 or 384 or 473 or 474.

499-3 Agriculture Information for Elementary Teachers. A general inquiry into the agriculture literacy appropriate for elementary students. A framework for evaluating content appropriate for elementary students in the pursuit of agriculture literacy will be developed. Prerequisite: consent of instructor.

General Agriculture Faculty

Itlis, Robert N., Lecturer, MS., Southern Illinois University Carbondale, 1994.

Legacy, James, Professor, Ph.D., Cornell University, 1976.

Steffen, Richard W., Assistant Professor, Ph.D., Iowa State University, 1993.

Stitt, Thomas R., Professor, Ph.D., Ohio State University, 1967.

Wolff, Robert L., Professor and Chair, Ph.D., Louisiana State University, 1971.

Geography (Department, Major, Courses)

Geography is the discipline that deals with the relationship between human beings and their environment. The Department of Geography emphasizes the applied aspects of this theme, environmental planning and management, and geographic techniques such as cartography and spatial analysis. Students may earn a Bachelor of Arts or Bachelor of Science degree through the College of Liberal Arts. All geography majors develop a minor in consultation with the Department of Geography undergraduate program director, which can be fulfilled by taking courses in another department or by an interdisciplinary group of courses based on a topical specialty, for example, in water resources.

Community college and transfer students interested in geography are encouraged to visit the department to determine possibilities for waivers, proficiencies, and transfer credit substitution.

Honors in geography is a special three semester program available to majors with an overall grade point average of 3.00 or better. Interested students should apply during the junior year for departmental consent to initiate an honors program.

Students with a minor in geography must take Geography 103 or 300, three 300-level courses and one 400-level course. Geography 300 has been approved as a substitute for Geography 103 for the University Core Curriculum. Social Studies majors in the College of Education with a 9-hour concentration in geography must take Geography 103 or 300 and complete their concentration with electives from geography.

The core program provides a common background for all geography majors. The major then selects a series of 400-level courses to satisfy career goals. Three special interest sequences are as follows.

Cartography and Geographic Information Management. This option stresses cartography, quantitative techniques, and geographic data management, and is designed for those who wish to go into careers in which geographic techniques are necessary skills.

Environmental Planning. This option is for those interested in careers in environmental management and planning. The courses deal with the economic, social, and political aspects of environmental planning, techniques of evaluation and principles of the environmental systems under consideration.

Geography General. This option gives maximum flexibility for those seeking a broad understanding of the field of geography, or those wishing to combine several areas of interest.

Bachelor of Arts or Bachelor of Science Degree, College of Liberal Arts

These courses provide the base for those seeking a broad understanding of the field of geography and who have interests in preparing for graduate study or in applying geography in teaching, industry, or government.

<i>University Core Curriculum Requirements</i>	41
<i>College of Liberal Arts Academic Requirements</i>	14
<i>Requirements for Major in Geography</i>	30-35
Geography Core Courses: 300, 303i, 304, 410	13
Special Interest Sequence (one of the following):	
Cartography and Geographic Information Management: 310, 404, 418a,b and 416 or 420 and two additional geog- raphy classes at the 400-level	12
Environmental Planning: 320, 422, 424, 426 and two addi- tional geography classes at the 400-level	21-22
Geography General: Any 400-level courses	17-19
<i>Minor (or interdisciplinary selection to complement major)</i>	15
<i>Electives</i> ¹	15-20
<i>Total</i>	120

¹Geography requires one college-level course in mathematics in addition to the University Core Curriculum requirement. This course does not contribute to the credit hours required for the major. It may be taken as an elective.

Minor

A minor in geography requires	15-16
Geography 103 or 300	3
Any three: 302, 304, 306, 310	9
400 level courses	3-4

Courses (GEOG)

103-3 World Geography. (University Core Curriculum) [IAI Course: S4 900N] Examination of the world's major geographic patterns, the diversity of environments, cultures and economic activities, differences between developing and developed nations, interdependence of nations and regions through communication and trade and in-depth assessment of representative environmental issues.

224-3 Geography of Natural Hazards. Damage from natural hazards in the United States is on the rise while loss-of-life has been declining. Losses from earthquakes, floods, hurricanes, tornadoes, drought, hail, and urban snow in the United States are reviewed. The range of alternatives to cope with natural hazards are appraised; and special attention is given to problems characteristic of all natural hazards — warnings, relief and rehabilitation, insurance, and land-use management.

300-3 Introduction to Geography. Describes human impact on the natural and manmade landscape. Themes include human population, land use, political systems, culture, religion, language and international organizations, all of which are analyzed from a spatial perspective. Includes the nature of geography, the kinds of problems which it investigates, the methods it uses.

302-3 Physical Geography. A study of the earth's physical surface, world distribution patterns of the physical elements, their relationship to each other and their importance to people. Field trip and laboratory work. Charges not to exceed \$5 for field trips. Prerequisite: 300 or consent.

303I-3 The Earth's Biophysical Environments. (University Core Curriculum) [IAI Course: P1 909L] Deals with components of the biophysical environment, including weather and climate, tectonics and geomorphic, soil-forming and ecologic processes as they create dynamic landscapes. Environmental issues tied to landscapes are presented and debated. Laboratories combine field studies, data analysis, computer simulations and discussions about issues related to environmental processes.

304-3 The World Economy. This course first introduces the structure of the world economy emphasizing interaction between the developed and underdeveloped nations. World production and trade in the agriculture and energy industries is analyzed from a world system perspective. This course satisfies the CoLA Writing Across the Curriculum requirement. Prerequisite: 300 or consent.

306-3 Cultural Geography. An overview of the geographic viewpoint in the study of the human occupancy of the earth. Aspects of population, settlement, and political geography are treated, and a generalized survey of major world cultural areas is used to integrate course elements. Prerequisite: 300 or consent.

310-3 Introduction to Cartography. An introduction to the study of maps and the techniques of map making. Concepts concerning scale, projection, generalization and design are discussed. Emphasis is placed on the use of maps as tools for the representation of spatial patterns and the solution of geographic problems. Students will construct both small scale statistical maps and large scale site maps using manual and computer-based

techniques. Two hours of lecture, two hours of laboratory each week. Prerequisite: 300 or consent of instructor.

320-3 Introduction to Environmental Planning. Analysis of social responses to environmental challenges requiring policy action (air and water pollution, land use and ecosystem degradation, etc.). Particular focus is on the current legal framework for environmental regulation.

326-3 Geography of Urban Environments. Explores the historic and present relationship between people and the urban environment, and between urban places and the sites which they occupy. Systems of measuring environmental quality are reviewed along with methods of assessing and forecasting change in the total urban environment. This course satisfies the CoLA Writing Across the Curriculum requirement.

330-3 Weather. An examination of the natural processes which create weather and its temporal and geographic variations and an analysis of the basics of weather forecasting. Current tools and techniques of weather analysis will be applied to weather forecasting of storms, blizzards, hurricanes, tornadoes, drought and flooding. Follows a lecture/workshop-discussion format. Workshops will emphasize weather experiments and forecasting simulations. Satisfies CoLA science requirement.

331-3 Climate. This course provides a comprehensive overview of earth's climate. The important physical relationships driving the atmospheric circulation will be examined. Emphasis will then shift to understanding climate at numerous scales, ranging from the local to global and from daily variations to climate change. Focus will also be placed on understanding how the atmosphere interacts with earth's other physical systems, including the biosphere and oceans.

361-3 Regional Geography of the United States. A survey of environmental, economic, and historical factors and problems in the development of the United States and its regions. Analysis of population trends, assessment of economic activities, and analysis of transportation networks from a geographic perspective are introduced. Some attention is given to the United States in the world economy.

400-3 Geography of Outdoor Recreation. Analysis of patterns of outdoor recreation with an emphasis on metropolitan areas. Selected topics include demand forecasting methods, cost-benefit analysis and the valuation of recreation resources, and an analysis of the socioeconomic and spatial impacts of recreation facility provision.

404-3 Spatial Analysis. The purpose of this course is to equip the student with a series of perspectives and tools with which to view spatial phenomena. Emphasis is placed on methodological approaches to the analysis of a real distributions and phenomena. Longitudinal analysis of data is included. Prerequisite: 300. Geography 410 is advisable or consent of instructor.

406A-2 Introduction to Remote Sensing. An introduction to remote sensing as applied to the study of environmental systems. This course will examine the theoretical and practical concerns associated with the use and analysis of aerial photography and satellite imagery. Geography majors must take 406a and 406b concurrently. Others may take an approved alternative course in another department as a substitute for 406b.

406B-1 Introduction to Remote Sensing Laboratory. A hands-on, laboratory-based class that introduces students to remote sensing techniques as applied to geographical analysis. Emphasis is placed on the manual interpretation and analysis of remotely sensed photographs and imagery. However, students will be introduced to state of the art digital image processing technology. Geography majors must take 406a and 406b concurrently. Others may take an approved alternative course in another department as a substitute for 406b.

408-3 Advanced Remote Sensing. Advanced techniques in the analysis of remotely sensed data. Emphasis is placed on digital image processing using state of the art technology. Students will be expected to develop individual problem-driven projects that use the knowledge, tools and techniques that are developed in this course. Two hours of lecture, two hours of laboratory each week. Prerequisite: 406a and 406b or consent of instructor.

410-4 Techniques in Geography. Geographic applications of basic and advanced statistical and mathematical techniques, including basic descriptive statistics, hypothesis testing, regression and correlation, analysis of variance, and nonparametric statistics. Special emphasis on a real measures: nearest neighbor analysis, etc. Prerequisite: 300 or consent.

416-3 Analytical Cartography. Introduction to computer and analytical cartography. Students examine techniques for the representation, manipulation and display of spatial data using computer mapping techniques and software. Emphasis will be placed on algorithmic solutions to common cartographic problems. Students will be expected to complete a team based project that uses automated cartographic techniques to address a geographic problem. Prerequisite: 310 or computer literacy, or consent of instructor.

418A-2 Introduction to Geographic Information Systems. An introduction to geographic information systems (GIS) as it is applied to environmental problem solving. Examines the theoretical and practical concerns associated with the representation and analysis of geographic phenomena using computer technology. Geography majors must take 418a and 418b concurrently. Others may take an approved alternative course in another department as a substitute for 418b. Prerequisite: 310 or consent of instructor.

418B-1 Introduction to Geographic Information Systems Laboratory. A laboratory-based class that introduces students to the use and application of geographic information systems (GIS) technology in geography. Students explore the utility of GIS through team-based projects that provide hands-on experience with commonly used GIS hardware and software. Geography majors must take 418a and 418b concurrently. Others may take an approved alternative course in another department as a substitute for 418b. Prerequisite: 310 or consent of instructor.

420-3 Advanced Geographic Information Systems. Advanced concepts and techniques for computer-based analyses of geographic information. Students will be expected to develop individual problem-driven projects that use the knowledge, tools and techniques that are developed in this course. Two hours of lecture, two hours of laboratory each week. Prerequisite: 418a and 418b or consent of instructor.

421-2 Urban Geography. Examination of extracity relationships — theory and structure; intra-city relationships — theory and structure, and selected urban problems. Offered once annually. Prerequisite: 300 or consent.

422-4 Economics in Geography and Planning. Concepts, symbols, language, theory, and elementary mathematics of economics and geography. Individual's preferences, production functions, the firm, markets, optimality, externalities, and welfare economics. Elementary mathematics of time and intertemporal criteria. Prerequisite: 304 or consent of instructor.

424-4 Sustainable Development. Analysis of the human, economic, technological, environmental and political dimensions of sustainable development focusing on public and private sector institutions that manage renewable and non-renewable natural resources. Emphasis is sustainable development as applied to: (a) population, (b) energy and the atmosphere, and (c) agricultural impacts on soil and water resources. Prerequisite: 422 or Agribusiness Economics 440 or consent of instructor.

425-4 Water Resource Planning Simulation. A review of water resource planning theory and practice from a physical, technological, economic, social, and geographical viewpoint. Students design a comprehensive water resource plan including flood control, water supply, water quality, and recreation for a city of 175,000 population. This plan is played against a 50-year trace of hydrologic parameters in a computer simulation. Prerequisite: 424 or consent.

426-4 Administration of Environmental Quality and Natural Resources. (Same as Political Science 445.) An examination of institutional arrangements and administrative practices in the protection and use of land, water, air, and mineral resources. The course includes analysis of responsibility and decision-making at all levels of government (federal, state, and local) as well as corporate, interest group, and individual responses to public programs. Particular attention will be given to administration of federal environmental quality legislation including the National Environmental Policy Act, the Clean Air Act, the Water Pollution Control Act, and the Surface Mining Reclamation Act. Prerequisite: 300 or 326, or consent of instructor.

430-3 Environmental Systems Analysis. Exploration of the major environmental systems relevant to environmental planning. Topics include concepts of systems and system behavior; basics of systems analysis and modeling environmental systems; environmental fluxes of energy and materials (e.g., hydrologic cycle, carbon cycle, energy budgets, erosion and sediment transport, role of biosphere in organizing fluxes); environmental variability. Prerequisite: 302 or consent.

433-3 Advanced Physical Geography. Topics may include landforms, climate, soil or water. Varies with the interest of the instructor. Prerequisite: 302 or consent.

434-4 Water Resources Hydrology. Microclimatic factors which affect the hydrologic events of various climatic regions are treated extensively. Methods of estimating geographic variations in hydrologic relations to climatic and microclimatic especially evapotranspiration, are compared and evaluated. Consequences of alternative land uses on climate and hydrology are considered regionally. Charges are not to exceed \$10 for field trips. Prerequisite: 302 or 430 or consent.

435-3 Energy Planning. Regional and national differences in energy supply and demand are reviewed followed by a study of current energy resources, the range of demands and environmental impacts. National and international planning strategies for dealing with changes in energy demand and supply are explored and assessed for present and future implementation probability.

436-3 Environmental Disaster Planning. Develops the skills and perspectives needed to plan effectively for natural and man-made disasters. The concepts of risk analysis, hazard mitigation and preparedness, response and recovery of the economic and social infrastructure in areas impacted by earthquakes, floods, droughts, radioactive and toxic material releases, and other catastrophic events.

438-3 Weather Forecasting. Analysis of meteorological forecasting technique including: (a) interpretation of satellite images and soundings, radar algorithms, severe weather models (NGM, ETA, RUC), and global warming forecasting models; and (b) prediction of air mass/front motion, cloud and precipitation formation, El Nino effects and isentropic effects on the atmosphere. Charges not to exceed \$5 for field trips. Prerequisite: 330 or consent of instructor.

439-3 Global Climate Change. Climate change is emerging as one of the key environmental, economic and social issues of our time. This course explores this complex topic, focusing on its many components. Subjects to be covered include: (a) an overview of climate, climate variability and natural change; (b) man-induced causes of climate change; (c) social and environmental relationships; (d) international policy; and (e) understanding potential impacts. Prerequisite: 330 or 303i or consent.

452-3 Environment and Population. Introduction to population geography. Emphasis is on the relationships between population trends, resource use patterns and environmental impacts. Topics include methods and data used to describe and predict populations, theories of population and policy issues that relate to the interaction between population, quality of life and environment quality. Prerequisite: 320 or consent of instructor.

454-3 Conservation and Environmental Movements. Emphasizes the ways in which humans view and interact with the environment. Conservation literature and the works of influential environmentalists are studied. Specific theories and environmental movements which help to explain society's current perception and use of the environment are studied. Prerequisite: 320 or consent of instructor.

470-3 Interdisciplinary Approaches to Environmental Issues. Application of concepts for the Biological, physical and social sciences, economics, humanities and law, are used to understand the interdisciplinary complexities of environmental issues. Students will develop and demonstrate problem-solving skills as part of a team analyzing a regional environmental issue. Team-taught seminar style discussions. Prerequisite: Plant Biology 301i and admission to Environmental Studies minor program.

471-3 Environmental Impact Analysis. Techniques of assessing the impact of human activities on the environment, including weighting schemes, cost-benefit analysis, linear programming, ecological impact assess

ment. Emphasis is on placing NEPA and EIS writing in legal, economic, and environmental perspective. Prerequisite: 302 or 304 or consent.

480-3 to 6 Internship in Geography. Supervised field work in private or public organization dealing with planning, environmental management, or cartography and geographic information management. A written proposal about the planned internship must be submitted to a faculty supervisor prior to beginning of internship. A faculty supervised report on the work is required after the internship. Courses may be repeated, but no more than 3 credit hours of either 480 or 481 may be applied to an undergraduate major. A graduate student may enroll for 3 credit hours. Prerequisite: geography major and consent of department.

481-6 to 12 Cooperative Work Experience in Geography. Placement of advanced undergraduate or graduate student in private or public organization for one or more semesters in paid career-related position. Student gains professional experience, under faculty and on-site supervision. A written proposal about the planned cooperative work experience must be submitted to a faculty supervisor before it begins. A report summarizing the work experience is required after the work experience ends. Course may be repeated. Three credit hours of either 480 or 481 may apply toward requirements for a Geography major; three additional credit hours may apply toward degree requirements as elective. Prerequisite: geography major and consent of department.

487-6 (1,2,3) Honors in Geography. (a) honors tutorial; (b) honors reading; (c) honors supervised research. Must be spread over the last two years of the undergraduate's career. May be taken in either a, b, c, or b, a, c sequence. Prerequisite: consent of department.

490-2 to 4 Readings in Geography. Supervised readings in selected subjects. Prerequisite: geography major, advanced standing.

Geography Faculty

Arey, David G., Associate Professor, Ph.D., Clark University, 1969.

Baumann, Duane D., Professor, *Emeritus*, Ph.D., Clark University, 1968.

Beazley, Ronald I., Professor, *Emeritus*, Ph.D., Purdue University, 1954.

Christensen, David E., Professor, *Emeritus*, Ph.D., University of Chicago, 1956.

Denise, Paul S., Assistant Professor, *Emeritus*, Ph.D., University of California at Berkeley, 1974.

Duram, Leslie A., Assistant Professor, Ph.D., University of Colorado at Boulder, 1994.

Dziegielewski, Benedykt, Associate Professor, Ph.D., Southern Illinois University, 1983.

Horsley, A. D., Assistant Professor, Ph.D., Southern Illinois University Carbondale, 1974.

Irwin, Daniel R., Associate Professor, *Emeritus*, Ph.D., Syracuse University, 1972.

Jones, David L., Professor, *Emeritus*, Ph.D., Pennsylvania State University, 1960.

Lant, Christopher, Associate Professor and Chair, Ph.D., University of Iowa, 1988.

Lieber, Stanley R., Professor, Ph.D., University of Iowa, 1974.

Perk, H. F. W., Lecturer, *Emeritus*, A.B., University of California at Los Angeles, 1951.

Poston, Richard W., Professor, *Emeritus*, B.A., University of Montana, 1940.

Sharpe, David M., Professor, *Emeritus*, Ph.D., Southern Illinois University Carbondale, 1968.

Geology (Department, Major, Courses)

Geology is the study of the Earth and encompasses a broad range of topics including Earth's history, composition, physical and chemical processes and the evolution of life. It has a unique perspective of time and scale, extending billions of years in the past and to global-wide events. Because of man's interaction with many Earth systems, geology is an environmental science that is vital to the resolution of such problems as climate change; groundwater supply and pollution; prediction and mitigation of earthquake, flooding and volcanic hazards; and natural resource discovery and utilization. Students majoring in geology acquire knowledge of value to many science and non-science professions.

The geology degree programs consist of a set of core courses that provide a foundation of geological principles and specialization tracts and elective courses that students choose to design a curriculum relevant to their interests. Many courses have a laboratory component where a hands-on, practical problem-solving approach to learning is emphasized. Students are introduced to basic and specialized computer programs and instrumental techniques used to gather and interpret data. Field trips

to geological sites or field-based projects are regular features of several courses. Most classes for geology majors are small enough for students to receive individual attention and enjoy close contact with faculty in the classroom.

In the field of geology a student may work toward either a Bachelor of Arts or Bachelor of Science degree.

The Bachelor of Arts degree requires a major in geology but is a flexible program, permitting a student to combine education in geology with courses in other areas, such as other sciences, management or pre-law. A minor is optional. Having obtained a Bachelor of Arts degree, students may continue their education toward a Master of Science degree in geology.

The Bachelor of Science degree requires a core of Geology courses and courses in biology, chemistry, mathematics, physics and science electives. This degree requires a specialization to be obtained in one of the following: Geology, Environmental Geology, Geophysics, or Resource Geology. The specializations allow students to pursue specific career goals in the field of geology and related areas. The summer field course, usually taken between the junior and senior years, is a part of the geology core. It is taught at a permanent field camp in the Beartooth Mountains near Red Lodge, Montana. The Bachelor of Science degree will ordinarily be pursued by students desiring to do graduate work or to become a professional geologist.

Bachelor of Arts in Geology Degree, College of Science

<i>University Core Curriculum Requirements</i>	41
<i>College of Science Academic Requirements</i>	(6) + 11-12
Mathematics 108 and 109 or 111	(3) + 2 - 3
Biological Sciences (Not University Core Curriculum)	(3) + 3
Supportive Skills (choose from the following):	6
Computer Science 200 or 201 or 202 or Engineering 222, English 290, 291 or 491, Mathematics 282 or 283, two semester sequence of a foreign language offered at Southern Illinois University Carbondale	
<i>Requirements for Major in Geology</i>	(3) + 35 - 39
Geology 220 or 222, 221, 223, 224, 302, 310, 315, 325 and 450 or 454	(3) + 26-30
Chemistry 200, 201, 210, 211	8
Physics 203a, 253a or 205a, 255a	4
<i>Electives</i>	19 - 24
<i>Total</i>	120

Bachelor of Arts in Geology Suggested Curricular Guide

FIRST YEAR			SECOND YEAR		
	FALL	SPRING		FALL	SPRING
GEOL 220 or 222, 223 ¹	4	-	GEOL 310	4	-
GEOL 221, 224	-	4	GEOL 315	-	4
ENGL 101, 102	3	3	PHYS 203a, 253a	4	-
CHEM 200, 201	4	-	Biological Science	-	3
CHEM 210, 211	-	4	SPCM 101	-	3
MATH 108 ² or 111, 109 ³	3-5	3	UCC Social Science	3	3
UCC Human Health	-	2	UCC Humanities	3	3
<i>Total</i>	14-16	16	<i>Total</i>	14	16
SUMMER OF THIRD YEAR					
			GEOL 454 ⁶	6	
			<i>Total</i>	6	

THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
GEOL 302, 325.....	4	4	Elective.....	10-12	10-12
Biological Science ⁴	4	-	Supportive Skills.....	3	3
UCC Fine Arts.....	-	3	Total.....	13-15	13-15
UCC Multicultural.....	3	-			
UCC Interdisciplinary.....	-	3			
Elective.....	4	3			
GEOL 450 ⁵	-	2			
Total.....	15	16			

¹ Subs for Geology 110

² Subs for UCC Mathematics 110 or 113

³ Not required if Mathematics 111 taken.

⁴ Subs for UCC Biology

⁵ Not required if Geology 454 taken

⁶ Not required if Geology 450 taken

Bachelor of Science in Geology Degree, College of Science

University Core Curriculum Requirements	41
College of Science Requirements	(6) ¹ + 11 - 12
Mathematics 108 and 109 or 111	(3) ¹ + 2 - 3
Biological Sciences (Not University Core Curriculum)	(3) ¹ + 3
Supportive Skills (choose from the following):	6
Computer Science 200 or 201 or 202 or Engineering 222, English 290, 291 or 491, Mathematics 282 or 283, two semester sequence of a foreign language offered at Southern Illinois University Carbondale	
Requirements for Major in Geology	(3) ¹ + 56 - 57
Required Core Courses:	
Geology 220 or 222; 221, 223, 224, 302, 310, 315, 325, 454	(3) ¹ + 27
Mathematics 150	4
Chemistry 200, 201, 210, 211	8
Physics 203a,b; 253a,b or 205a,b; 255a,b	8
Required Curriculum Specialization	9 - 10
Geology Specialization	9
For students interested in all aspects of the geological sciences. This specialization ordinarily is pursued by students desiring to do graduate work in the traditional field or geology. Students should select three courses from the following options: Geology 412, 418, 425, 435 or 436 or 466, 474, 481	
Environmental Geology Specialization	9 - 10
For students interested in geology as it relates to environmental problems such as groundwater contamination, flooding, earthquakes and landscape stability. Students should select three courses from the following options: Geology 418, 421, 434, 470 and 471, 474, 476, 478	
Geophysics Specialization	9 - 10
For students interested in tectonics, geophysics of the earth, earthquakes and geophysical aspects of environmental geology and petroleum or mineral exploration. Students should select three courses from the following options: Geology 435, 436, 437, 466	
Resource Geology Specialization	9
For students interested in geology as it relates to the origin, characteristics, and utilization of energy and mineral resources such as coal, petroleum and metals. Students should select three courses from the following options: Geology 418, 419, 420, 421, 480, 482	
Electives in Geology Science Technology	11 - 12
Total	120 - 121

¹Numbers in parenthesis are hours which may be substituted into the University Core Curriculum.

Bachelor of Science in Geology Suggested Curricular Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
GEOL 221, 224	-	4	GEOL 310	4	-
GEOL 220 or 222, 223 ¹	4	-	GEOL 315	-	4
ENGL 101, 102	3	3	PHYS 203a, 253a	4	-
CHEM 200, 201	4	-	PHYS 203b, 253b	-	4
CHEM 210, 211	-	4	SPCM 101	3	-
MATH 109 ³	-	3	MATH 150	-	4
MATH 108 ² or 111	3-5	-	UCC Humanities	3	3
UCC Human Health	-	2			
<i>Total</i>	14 - 16	13 - 16	<i>Total</i>	14	15

SUMMER OF THIRD YEAR

GEOL 454	6
<i>Total</i>	6

THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
GEOL 302	4	-	GEOL Specialization	3	-
GEOL 325	-	4	Geology/Science/Tech		
GEOL Specialization	3	3	Elective	6	6
Biological Science ⁴	3	3	Supportive Skills	3	3
UCC Social Science	3	3	UCC Multicultural	3	-
UCC Fine Arts	-	3	UCC Interdisciplinary	-	3
<i>Total</i>	13	16	<i>Total</i>	15	12

¹ Subs for Geology 110² Mathematics 108 may be used for Core Curriculum Mathematics³ Not required if Mathematics 111 taken⁴ Substitutes for Core Curriculum Biology**Minor**

A minor consists of 16 hours, determined by consultation with the geology adviser.

Courses (GEOL)

Courses with a laboratory may require purchase of a laboratory manual and a supply fee. All courses requiring field trips may have a field trip cost of approximately \$2 to \$7.

110-3 Geology and the Environment. (University Core Curriculum) [IAI Course: P1 908L] Examines human interaction with geologic processes and hazards, including earthquakes, volcanoes, landslides and flooding; occurrences and availability of geologic resources, such as energy, water and minerals; and land-use planning waste disposal and environmental impact. Two lectures and one laboratory per week.

220-3 The Dynamic Earth. [IAI Course: P1 907] Introduction to the materials which form the Earth and the dynamic processes that change them. Three lectures per week. One Saturday field trip required. Prerequisite: high school or college chemistry.

221-3 Earth Through Time. [IAI Course: P1 907] Concepts and methods of interpreting Earth history. Development of Earth's major features and environment systems. Emphasis on ancient environments and life forms, major changes in paleoclimate, paleocommunities and biodiversity.

222-3 Environmental Geology. A study of the environment from a geological perspective. A critical study of geological hazards (earthquakes, floods), earth resources (minerals, water), proper land use (waste disposal), and other environmental concerns. Three lectures per week. One Saturday field trip required. Prerequisite: high school or college chemistry.

223-1 Introductory Geology Laboratory. Understanding the Earth's processes, materials and environment through hands-on laboratory and field experience. One three-hour session per week. Prerequisite: completion of, or concurrent enrollment in, 220 or 222.

224-1 Earth Through Time Laboratory. Concepts and methods of interpreting Earth's history. One two-hour laboratory per week. Weekend day field trip required. Prerequisite: completion of or concurrent enrollment in 221.

302-4 Fundamentals of Structural Geology I. An introduction to structural geology including a study of the forces involved in the deformation of the earth's crust, with special emphasis on the recognition and interpretation of the resultant geologic features. Laboratory required. Prerequisite: 220 or 222; 223; Mathematics 111. Recommended: Physics 203, or 205 or concurrent enrollment.

310-4 Mineralogy. Introduction to the internal structure morphology and chemistry of crystals. Study of the properties, chemistry, occurrence and identification of rock-forming and economically important minerals. Rudiments of the use of a petrographic microscope and the optical properties of common-rock forming minerals. Prerequisite: 220 or 222; 223; Chemistry 200, 201 recommended.

315-4 Petrology. Introduction to the classification, nature, origin and processes of igneous, sedimentary and metamorphic rocks. Hand specimen and thin-section analysis of rocks. Lecture-laboratory. Week-end field trips required. Prerequisite: 310.

325-4 Sedimentology and Stratigraphy. The characteristic features of sedimentary rocks and the physical and chemical processes responsible for their origin and diagenesis. The classification of stratigraphic units, methods of correlation, and paleogeologic reconstruction. Laboratory and field trips required. Prerequisite: 220 or 222; 221, 223, 224, 310.

328I-3 Dinosaurs and the Age of Reptiles. (University Core Curriculum) What we know about dinosaurs - their fossils, morphologies, origin, types, relatives, relationships, lifestyles, distributions (in time, in space, in paleoenvironments,), biotic associates and extinction; and how we know it - interdisciplinary application of basic scientific concepts of geology, paleobiology, paleoecology and paleoenvironmental analysis.

390-3 Introduction to Mining Geology. Structure and composition of the earth as these impact specifically on mining engineering problems; geologic time, sequence of events, major geologic provinces, types of ore deposits, use of core data, preparation and interpretation of geologic cross-sections. Two lectures and one three-hour laboratory. Two Saturday field trips required. Prerequisite: 220 or 222; 223.

412-3 Advanced Petrology. In-depth study of the rock forming processes. The relations of rock forming processes to petrographic analysis will be emphasized. Laboratories will deal with hand-specimen and thin-section analysis from selected rock suites with genetic modeling of the resulting data. Prerequisite: 310, 315.

413-3 Quantitative Methods of Geology. An introduction to quantitative methods in a geological and earth sciences context. Topics introduced include sampling plans for geologic studies, non-parametric test of geological data, comparisons of geological samples, analysis of sequential geological data. Laboratories will deal with numerical examples from all areas of geology. Prerequisite: advanced standing and consent of instructor.

414-3 Paleobotany. (See Plant Biology 414.)

415-3 Optical Mineralogy. The optical properties of minerals and the use of the petrographic microscope for identification of crystals by the immersion method and by thin section. Lecture, laboratory. Prerequisite: 310, Physics 203b or 205b.

417-3 Isotope Geochemistry. Stable and radioactive isotopes and the applications of isotopic studies to igneous and metamorphic petrology, ore deposits, sedimentology, surface processes, geothermometry, and geochronology. Introduction to isotopic techniques and mass spectroscopy. Laboratory or research project required. Prerequisite: 310, 315, and 325 or consent. Recommended: Physics 203, Mathematics 150, and Geology 419.

418-3 Low Temperature Geochemistry. The application of chemical principles to geologic processes that occur on and near the earth's surface. Lecture, laboratory. Prerequisite: 310, Chemistry 200, 201, 210, 211 or equivalent.

419-3 Ore Deposits. Overview of the occurrence, geology and origin of metalliferous mineral deposits. Geologic principles and research techniques important to the understanding of mineral deposits. Introduction to exploration and mining methods. Lectures, laboratories and field trips. Prerequisite: 302, 315.

420-3 Petroleum Geology. The geological occurrences of petroleum including origin, migration and accumulation; a survey of exploration methods, and production problems and techniques. Laboratory study applies geological knowledge to the search for and production of petroleum and natural gas. Prerequisite: 221, 224.

421-3 Organic Geochemistry. The nature, origin and fate of natural and artificial organic materials in rocks and sediments. Topics include characterization of fossil fuels using biological marker compounds, petroleum source rock evaluation, and organic pollutants in the environment. Prerequisite: 325 or consent of instructor.

423-3 Geomicrobiology. (Same as Microbiology 423 and Molecular Biology, Microbiology and Biochemistry 423). The course will focus on the role that microorganisms play in fundamental geological processes. Topics will include an outline of the present understanding of microbial involvement of weathering of rocks, formation and transformation of soils and sediments, and genesis and degradation of minerals. Elemental cycles will also be covered with emphasis on the interrelationships between the various geochemical cycles and the microbial tropic groups involved. Prerequisite: Microbiology 301 and Chemistry 210 and 211. Recommended: Geology 220, 221 or 222.

425-3 Invertebrate Paleontology and Paleoecology. Concepts of paleontology and paleoecology. Emphasis on functional morphology, lifestyles and habitats of fossil invertebrates and algae. The nature and evolution of marine and coastal paleocommunities. The effects of extinction events on paleocommunities and biodiversity. Laboratory. Prerequisite: 325 or a biology course.

428-3 Paleoecology and Environments of Deposition. Characteristics, distribution, and classification of recent and ancient environments. Criteria for recognizing ancient environments. Sedimentological and paleoecological approaches. Recognition of ancient environments and environmental associations. Laboratory. Field trips required. Prerequisite: 425, 325, or concurrent enrollment.

434-3 Engineering and Environmental Geophysics. Geophysical methods used in engineering and environmental site characterization and assessment and the geophysical detection of environmental hazards. Field trips required. Prerequisite: Physics 203a or 205a, 203b or 205b, Mathematics 150.

435-3 Solid-Earth Geophysics. Earth's size, shape, mass, age, composition, and internal structure are reviewed in detail as understood from its volcanism, gravity and magnetic fields, seismicity, and motion of continents and ocean basins; plate tectonics. Prerequisite: 302, Mathematics 150, or consent of instructor.

436-4 Elementary Exploration Geophysics. Theory and practice of geophysics as applied to the exploration and development of natural resources. Laboratory involves use of geophysical instruments and interpretation of data. Field trips required. Prerequisite: 220 or 222; 223; Mathematics 150.

437-3 Field Course in Geophysics. Use of geophysical equipment for collection, analysis and interpretation of seismic, gravity, magnetic, electrical, and other types of geophysical data. Prerequisite: 436 or consent.

440-1 to 4 Advanced Topics in the Geological Sciences. Individual study or research or advanced studies in various topics. Prerequisite: advanced standing and consent of instructor.

445-3 Museum Studies in Geology. History, nature and purpose of geology in museums, relationships of geology to other museum disciplines, application of geologic methods to museum functions, preparation and

preservation of specimens; nature, acquisition and utilization of geologic collections in museums, role of research in museums.

450-2 Introduction to Field Geology. Introduction to field techniques, principles of geologic mapping and map interpretation. Field trip fee \$5.00. Prerequisite: 302, 315 or concurrent enrollment.

454-6 Field Geology. Advanced field mapping in the Rocky Mountains, including problems in stratigraphy, structure, petrology, paleontology, geomorphology, and economic geology. Transportation cost approximately \$150, supplies \$6. Prerequisite: 302, 315; 450 recommended.

460-3 Geological Data Processing. Computer applications to geological problems including the processing and programming of data and the interpretation and evaluation of results. Lecture, laboratory. Prerequisite: Engineering 222 or Computer Science 202.

462-3 Fundamentals of Structural Geology II. Intermediate topics in structural geology including strain theory, field strain analysis, geometry of complex mesoscopic structures and introduction to dislocations, deformation history, and microfabric analysis. Hypotheses and orogenesis are discussed and evaluated. Lecture and assigned problems only. Prerequisite: 302 or equivalent.

466-3 Tectonics. Fundamentals of geodynamics applied to plate tectonics: mantle composition and rheology, deformation of the lithosphere, structural characteristics of plate margins, stability of triple junctions, diachronous tectonics, and orogenesis will be examined in detail. Prerequisite: 302, Mathematics 150, or consent of instructor.

470-3 Hydrogeology. Study of the distribution, origin, and movement of groundwater, and the properties of geologic materials that control groundwater flow and contaminant transport. Geology majors must also take 471 concurrently. Prerequisite: 220 or 222; 223; Mathematics 150; or consent of instructor.

471-1 Hydrogeology Laboratory. Problem sets, laboratory experiments, and field exercises in hydrogeology. Geology majors must take this course concurrently with 470. Prerequisite: 220 or 222; 223; Mathematics 150; or consent of instructor.

474-3 Geomorphology. Study of erosional and depositional processes operating at the earth's surface and landforms resulting from these processes. Relationship of processes and landforms to the geologic framework is examined. Laboratory. Prerequisite: 220 or 222; 223.

476-3 Quaternary Geology. Methods used to identify, map, date and correlate Quaternary deposits and interpret Quaternary history. Covers glacial, fluvial, coastal, lacustrine and eolian chronologies, oxygen-isotope records from ocean sediments and continental ice cores, volcanic activity, and Quaternary climate change. Field trips required. Prerequisite: 220 or 222; 221, 223, 224; or consent of instructor; 474 recommended.

478-3 Advanced Environmental Geology. Application of principles of geomorphology and Quaternary to environmental problems and geologic hazards. Lectures and case studies emphasize neotectonics, volcanic hazards, landslides and other mass movements, floods, river channel changes, and coastal erosion. Prerequisite: 474; 476 recommended.

480-3 Geology of Coal. Geology as related to exploration, development and mining of coal; stratigraphy, sedimentation and structure of coal deposits; type of coal basins and their tectonic setting; concepts of cyclical deposition in coal basins; origin of splits and partings in coal seams; relationship of modern environments and ancient coal-forming environments; structural problems relevant to exploration and mining of coal; methods of resource evaluation. Three 1-hour lectures a week; five half-day field trips. Prerequisite: 220 or 222; 221, 223, 224, 302, 325, or consent of instructor.

481-3 Sedimentary Basin Analysis. The use of stratigraphy, structure, sedimentology and geophysics to determine the paleogeographic evolution of sedimentary basins. Topics include the study of the relationships between host strata and both primary and post-depositional non-renewable resources, plate tectonics and basin evolution and subsurface geologic methods. Prerequisite: consent of instructor.

482-3 Coal Petrology. Structural features and microscopy of coal seams. Origin and alteration of coal constituents. Includes field trips, study of coal specimens, and techniques. Prerequisite: 220 or 222; 221, 223, 224; or consent of instructor.

483-3 Forensic Geology. An introduction to the use of geological materials and techniques in criminal investigation. Details from actual criminal cases will be used as examples in all the topics covered which include rock and mineral types, geological and topographic maps, fossils, sand, soil, spores and pollen, geological building materials, art fraud and gemstones. Techniques covered will include optical microscopy, scanning electron microscopy and x-ray diffraction.

490-1 to 3 Internship. Credit for supervised practical experience with an external geological agency or company; prior approval of the sponsoring agency and the department is required. Not for graduate credit. Prerequisite: advanced standing; minimum 2.70 cumulative gpa.

Geology Faculty

Crelling, John C., Professor, Ph.D., The Pennsylvania State University, 1973.

Dutcher, Russell R., Professor, *Emeritus*, Ph.D., The Pennsylvania State University, 1960.

Esling, Steven Paul, Associate Professor, Ph.D., University of Iowa, 1984.

Fifarek, Richard H., Associate Professor, Ph.D., Oregon State University, 1985.

Frank, Charles O., Assistant Professor, Ph.D., Syracuse University, 1973.

Harris, Stanley E., Jr., Professor, *Emeritus*, Ph.D., University of Iowa, 1947.

Kruege, Michael A., Associate Professor, Ph.D., University of California, Berkeley, 1985.

Marzolf, John E., Associate Professor, Ph.D., University of California at Los Angeles, 1970.

Pinter, Nicholas, Assistant Professor, Ph.D., University of California, Santa Barbara, 1992.

Ravat, Dhananjay, Associate Professor, Ph.D., Purdue University, 1989.

Sexton, John L., Professor, Ph.D., Indiana University, 1974.

Staub, James R., Associate Professor, Ph.D., University of South Carolina, 1985.

Utgaard, John E., Professor, Ph.D., Indiana University, 1963.

Zimmerman, Jay, Jr., Professor and Chair, Ph.D., Princeton University, 1968.

Health Care Management (Major, Courses)

The Health Care Management (HCM) major provides coursework and experience across the spectrum of health care supervision and management. Many Health Care Management graduates obtain supervisory and administrative position in various health and medical facilities such as hospitals, nursing homes, public health departments, health care training institutions, or HMOs. The bachelor of science degree in Health Care Management accommodates the beginning student as well as students who have training in health-oriented fields from colleges and universities, technical institutes, community colleges, proprietary institutions or military technical schools. Graduates from diploma programs also may be eligible for admission. Students with health care education build upon that background through a combination of major core courses, electives within HCM, approved electives and the SIUC University Core.

The Health Care Management program has a Linkage Agreement with Southeastern Illinois College, Rend Lake College and Shawnee College. If you have questions about this agreement, contact the community college advisor or SIUC Health Care Professions at (618) 453-8801.

The 41 hour University Core Curriculum requirements may be satisfied by completing courses at any accredited college or university, credit received through CLEP, USAFI, Dantes, or through proficiency examinations. The Capstone option is available to students who have obtained a health care related associate of applied science degree or its equivalent, and have a gpa of at least 2.25 on a 4.0 scale (SIUC calculation) on all work prior to the completion of the associate of applied science degree. Application to the Capstone option must be made no later than the end of the student's first semester or 12 semester hours in the baccalaureate degree program. More information about the Capstone option may be found in Chapter 3.

Students also may receive credit for previous educational, military and occupation experience. Credit is established by departmental evaluation after approval by the student's faculty advisor. The application for this experience credit must be made no later than the end of the student's first semester or 12 semester hours. Field internships and independent study opportunities are available upon approval by the student's faculty advisor.

In addition to University requirement, students must successfully complete all major core courses and attain a minimum gpa of 2.0 within the Health Care Management major for graduation. Students must earn a cumulative grade point average of 2.25 in all Health Care Management courses to qualify for an internship experience.

Bachelor of Science Degree, College of Applied Sciences and Arts

University Core Curriculum Requirements	41
Requirements for Major in Health Care Management	48
Core Requirements: 360, 364, 365, 366, 381 and 385	18
Hours selected from other HCM courses	12
Health Care Management 422, 301, 349, 401, 422, 450 or equivalent.....	12
Health care management electives approved by the adviser	6
Approved Career Electives	31
Total	120

Health Care Management Suggested Curricular Guide

THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
HCM 360, 366	3	3	HCM 384, 390	3	3
HCM 364, 381	3	3	HCM 382, 398	3	3
HCM 365, 385	3	3	HCM 388, 421	3	3
University Core	3	3	University Core	3	3
Independent Study, Internship or approved equivalent	3	3	Independent Study, Internship or approved equivalent	3	3
<i>Total</i>	15	15	<i>Total</i>	15	15

Courses (HCM)

258-1 to 30 Work Experience Credit. Credit granted for job skills, management-worker relations and supervisory experience for past work experience while employed in industry, business, the professions, or service occupations. Credit will be established by departmental evaluation. Prerequisite: health care professions majors.

259-1 to 60 Occupational Education Credit. A designation for credit granted for past occupational educational experiences related to the student's educational objectives. Credit will be established by departmental evaluation. Prerequisite: health care professions majors.

298-1 Multicultural Applied Experience. (Multicultural Applied Experience Course) An applied experience, service-oriented credit in American diversity involving a group different from the student who elects the credit. Difference can be manifested by things such as age, gender, ethnicity, nationality, political affiliation, race or class. The student can sign up for the one credit experience in the same semester he or she fulfills the multicultural requirement for the University Core Curriculum or the credit can be coordinated with a particular core course on American diversity, although neither is a requirement. Students should consult the Department of Health Care Professions for course specifications regarding grading, work requirements and supervision. Prerequisite: Health Care Professions major only and junior standing.

301-3 Introduction to Health Care Management Research. An introduction to library resources, electronic media resources and formal academic writing styles common to Health Care Management research. Introduction to basic theories, concepts and practices pertinent to Health Care Management. May be independent study. Prerequisite: Health Care Management major or consent of department.

349-3 Readings in Health Care Management. The use of written and electronic media resources relevant to Health Care Management and the development of a Health Care Management research bibliography. The use of bibliographic resources to produce written comparative or persuasive research reports. May be independent study. Prerequisite: 301 and Health Care Management major or consent of department.

350-1 to 32 Technical Career Subjects. In-depth competency and skill development and exploration of innovative techniques and procedures used in business, industry, professions, and health service occupations offered through various workshops, special short courses, and seminars. Hours and credit to be individually arranged. This course may be classified as independent study. Prerequisite: consent of instructor.

360-3 The U.S. Health Care System. A study of the major components which comprise the U.S. health care system. This course will focus primarily on basic terminology, history, settings, personnel and utilization of services.

364-3 Health Care Supervision. A course dealing with the problems of management of the small working unit (division, department, section, etc.) within a larger health care agency. Included items will be unit goals, identification of problems, staffing needs, monitoring of work progress, unit communications and interpersonal relations within the unit. Prerequisite: health care professions majors.

365-3 Data Applications for Health Professions. A course designed for students beginning their major in health care to examine and apply data to their profession. Emphasis will be placed upon the understanding of the basic principles, techniques and applications involved with analysis, synthesis and utilization of data. Prerequisite: Mathematics 108 and health care major.

366-3 Technical Information for Health Managers. A course designed to increase student competence in utilization and analysis of the various types of technical information encountered in the health professions. Prerequisite: health care professions majors only.

380-3 Seminar in Health Care Services. Seminar on the various existing and emerging issues which affect control and implementation of health care services to consumers. Topics include but are not limited to ethics, professionalism, credentialing, marketing, and future trends. Senior status or consent of instructor is required for registration.

381-3 Health Care Management. A study of the principles of effective management techniques including planning, decision making, organizing, budgeting, communication, and direction.

382-3 Health Economics. An analysis of the economics of health care in the United States and its effect on society and the health care profession.

384-3 Equipment and Materials Management in Health Facilities. A focus on the preparation of health care administrators with the necessary management tools to assure comfort, safety, and well-being of patients, hospital personnel, and visitors, and to focus their attention on sound maintenance management practices, materials procurement, storage and preservation, records keeping, and the utilities systems needed in a health care facility.

385-3 Fiscal Aspects of Health Facilities. An introduction to the fiscal problems encountered in the administration of health care facilities.

388-3 Legal Aspects of Health Care. A study of the legal requirements affecting health care facilities. The course will emphasize the basic law of contracts, consents, records, personnel, liabilities, privacy, and other routine functions. Successful students acquire an understanding of the need for legal counsel. Lecture three hours.

390-3 Labor/Management Relationships. The student will gain a general understanding of labor and management relationships as they apply to the health care setting. The student will develop a perspective on the evolution of health care labor relations in the United States economy and how the interaction of labor and management differs throughout the world and work setting. The student will be introduced to collective bargaining as it applies to both health care providers and support personnel. Prerequisite: health care professions majors only.

398-3 Risk Management in Health Care Organizations. A study of the process and principles of risk management in health facilities. This course demonstrates methods used in controlling, reducing, or eliminating financial loss in health care facilities due to employee negligence, medical mal-practice, workman's compensation and property loss. It examines pertinent legal principles, occupational health and safety, insurance, and related case studies. Prerequisite: junior standing and permission of instructor. Restricted to Health Care Management majors.

401-3 Analysis of Issues in the Health Care Industry. The identification and study of current economic, regulatory or operational issues impacting the health care industry. The use of both written and oral reports to present a critical analysis of selected topics. May be independent study. Not for graduate credit. Prerequisite: 349 and Health Care Management major or consent of department.

413-3 Nursing Home Management. A study of the principles of nursing home management which examines administrative and staffing functions relating to clients, community, public policy, programming, and financing. Not for graduate credit. Prerequisite: junior standing or consent of department.

421-3 Professional Practice in Health Care Management. Introduces the students to topics of professionalism, with emphasis on the elements involved in obtaining a position within the health care industry and professional ethics. Job development activities will include: personal inventories, placement services, interviewing techniques, resumes, letters of application, references and employment tests. Each student will develop a portfolio of professional information related to career goals. Students will also develop an approach to ethical problems from Who Am I? to the types of ethical problems in health care and how to apply decision making principles. Prerequisite: enrollment in College of Applied Sciences and Arts baccalaureate program or consent of instructor.

422-1 to 12 Occupational Internship. Each student will be assigned to a University approved health care organization engaged in activities related to the student's academic program and career objectives. The student will perform duties and services as assigned by the preceptor or coordinator. Reports and assignments are required to be completed by the student. Hours and credits to be arranged individually. Mandatory Pass/Fail. Not for graduate credit. Prerequisite: Health Care Management 421 and a minimum grade of C in all Health Care Management courses.

450-3 Management Problems in the Health Care Industry. The identification and study of problems related to management within the health care industry. The application of health care management theories, concepts and practices to the identified management problems. The use of written and electronic media research resources to produce a written problem solving report. May be independent study. Not for graduate credit. Prerequisite: 401 and Health Care Management major or consent of department.

Health Care Professions (Department, Faculty)

Courses (HCP)

105-2 Medical Terminology. This course is an introduction to the study of medical language with a working knowledge of the most common word roots, prefixes and suffixes in medical terminology. Emphasis is placed on spelling, pronunciation, use of the medical dictionary and the *Physician's Desk Reference* (PDR), vocabulary building, common abbreviations and charting terms.

241-4 Introduction to Physiology and Human Anatomy. A survey of the functions and structures of the ten basic systems of the human body: integumentary, skeletal, muscular, nervous, endocrine, hematocardiovascular, lymphoimmune, respiratory, genitourinary and reproductive. Emphasis is on homeostasis; fluid and nutritional support; immune-inflammatory reaction; neuroendocrine-stress response on body systems; the relationship between the systems and wellness; and clinical applications to commonly occurring diseases. Prerequisite: 105 or equivalent or consent of instructor.

Health Care Professions Faculty

Adams, Deborah K., Visiting Assistant Professor, M.A., Southern Illinois University Carbondale, 1983.

Aubertin, Mary A., Assistant Professor, Dental Hygiene, DMD., Washington University School of Dental Medicine, 1988.

Beaver, Shirley, Associate Professor, Dental Hygiene, RDH, Ph.D., Southern Illinois University Carbondale, 1995.

Callaghan, Mary E., Assistant Professor, Emerita, Dental Hygiene, R.D.L., M.A., University of San Francisco, 1962.

Clark-Holub, Cindy, Visiting Instructor, Dental Hygiene, RDH, M.S., Mankato State University, 1991.

Craven, M. Joyce, Clinical Assistant Professor, Physician Assistant, Ph.D., Southern Illinois University Carbondale, 1988.

DeMattei, Ronda, Assistant Professor, Dental Hygiene, RDH, M.S., Southern Illinois University Carbondale, 1986.

Elliott, J. Roy, Associate Professor, *Emeritus*, Dental Hygiene, RDH, D.D.S., University of Tennessee, 1953; M.S., Ohio State College of Dentistry, 1962.

Gottlieb, Rosemary, Assistant Professor, Physical Therapist Assistant, M.A., Southeast Missouri State University, 1992.

Grace, Linda M., Associate Professor, Health Care Management, Ph.D., Southern Illinois University Carbondale, 1985.

Grey, Michael, Assistant Professor, Radiologic Sciences, RT(R), M.S., Southern Illinois University Carbondale, 1991.

Griffith, Cydney A., Associate Professor, Mortuary Science and Funeral Services, M.S., Southern Illinois University Carbondale, 1991.

Hall, James E., Visiting Assistant Professor, Health Care Management, M.A., Bowie State University, 1992.

Hees, Alice Jane, Assistant Professor, Health Care Professions, RN, Ph.D., Southern Illinois University Carbondale, 1991.

Heischmidt, Cynthia Jo, Associate Professor, Dental Hygiene, RDH, Ph.D., Southern Illinois University Carbondale, 1991.

Milkevitch, Joseph, Visiting Assistant Professor, *Emeritus*, Health Care Management, M.B.A., Golden Gate University, 1982.

Morgan, Frederic L., Associate Professor and Chair, Health Care Professions, Ed.D., Ball State University, 1969.

Okita, Ted Y., Professor, *Emeritus*, Physical Therapist Assistant, RPT, M.A., Northwestern University, 1964.

Paulk, Marilyn, Assistant Professor, Dental Hygiene, RDH, M.S., Southern Illinois University Carbondale, 1987.

Pearson, Stanley, Assistant Professor, Respiratory Therapy, RRT, M.S., Southern Illinois University Carbondale, 1986.

Rogers, Janet L., Assistant Professor, Physical Therapist Assistant, Ph.D., Southern Illinois University Carbondale, 1995.

Shaw, Thomas, Assistant Professor, Mortuary Science and Funeral Service, M.B.A., Amber University, Garland, Texas, 1990.

Szekely, Rosanne, Assistant Professor, Radiologic Sciences, RT(R), M.S., Southern Illinois University Carbondale, 1995.

Hertz, Donald G., Associate Professor, *Emeritus*, Mortuary Science and Funeral Service, Ed.M., University of Oklahoma, 1953.

Holland, Susan, Assistant Professor, Respiratory Therapy, RRT, M.A., University of Manitoba, 1973.

Ijams, Kayleonne, Assistant Professor, Dental Technology, CDT, M.S., Southern Illinois University Carbondale, 1980.

Isberner, Fred, Associate Professor and Associate Dean, Ph.D., Southern Illinois University, Carbondale, 1984.

Jefferies, Dan P., Assistant Professor, Dental Hygiene, RDH, M.S., University of North Carolina, 1986.

Jefferies, Joan, Visiting Instructor, RDH, B.S.

Jensen, Steven, Associate Professor, Radiologic Sciences, RT(R), Ph.D., Southern Illinois University Carbondale, 1987.

Laake, Dennis J., Associate Professor, Dental Technology, CDT, M.S. ED., Southern Illinois University Carbondale, 1973.

Lautar, Charla, Assistant Professor, Dental Hygiene, RDH, University of Calgary, 1995.

Lukes, Sherri M., Visiting Instructor, Dental Hygiene, RDH, M.S., Southern Illinois University Carbondale, 1996.

Maurizio, Sandra J., Visiting Instructor, Dental Hygiene, RDH, M.S., Southern Illinois University Carbondale, 1993.

McMurry, William S., Visiting Associate Professor, *Emeritus*, Dental Hygiene, D.D.S., University of Missouri, 1950.

Tiebout, Leigh, Assistant Professor, Dental Technology, CDS, M.S., Southern Illinois University, 1988.

Trout-Ervin, Eileen, Associate Professor, Ph.D., Southern Illinois University at Carbondale, 1986.

Turnage, Virginia, Visiting Assistant Professor, M.S., Memphis State University, 1992.

VanStone, Christina, Visiting Instructor, Dental Hygiene, RDH, B.S., Southern Illinois University Carbondale, 1994.

Vitello, Elaine M., Professor and Dean, Ph.D., Southern Illinois University, 1977.

Weltscheff, William K., Visiting Assistant Professor, Dental Hygiene, D.D.S., University of Missouri-Kansas City, 1976.

Westphal, Dwight, Assistant Professor, Dental Technology, CDT, B.S., Southern Illinois University Carbondale, 1977.

Winings, John R., Associate Professor, Dental Technology, M.A., Governors State University, 1972.

Health Education (Major, Courses)

Health Education offers two specializations within the health education major and two programs of minimal professional preparation. The two specializations are:

1. Community Health Education. For those planning to conduct health education

and health promotion activities in non-classroom settings.

2. School Health Education. For those planning to teach health education in the secondary schools.

The two minimal professional preparations are:

1. School Health Education. For those planning to teach or supervise health education in the secondary schools.

2. Driver Education. For those planning to teach driver education in Illinois secondary schools.

These specializations, in general, constitute minimal preparation for the positions listed. Consequently, all candidates are strongly urged to complete additional work in the field.

A 2.25 grade point average is required for admission into the undergraduate health education program.

Psychomotor and verbal skills are required for students enrolled in Health Education 334 and 434. If questions arise concerning a student's ability in these areas, an assessment will be made prior to the end of the first week of the semester to determine whether the student possesses the necessary skills to remain in the course. The final decision will be made by the first aid coordinator in the Department of Health Education and Recreation.

A student in the community health education specialization must have a 2.5 grade point average in the major before clearance to do an internship. A student in the school health education specialization must have a 2.5 grade point average in the major before clearance to do student teaching.

Health Education 101, Foundations of Human Health, and Allied Health Careers Specialties 141, or its equivalent, are required for all undergraduate health education majors.

A C or better grade is required for all major courses in the undergraduate health education program.

Bachelor of Science Degree, College of Education

HEALTH EDUCATION MAJOR – COMMUNITY HEALTH EDUCATION SPECIALIZATION

<i>University Core Curriculum Requirements</i>	41
Health Education 101 must be included in University Core Curriculum.	
<i>Requirements for Major in Health Education</i>	39
Health Education 301, 305, 311, 312, 326, 330, 355, 401, 405, 407, 490, 491	
Allied Health Careers Specialties 141	4
<i>Recommended Health Education Electives</i>	15
<i>Electives</i>	21
<i>Total</i>	120

HEALTH EDUCATION MAJOR – SCHOOL HEALTH EDUCATION SPECIALIZATION

<i>University Core Curriculum Requirements</i>	41
To include ENGL 101 and 102; SPCM 101; MATH 110 or 113; CHEM 106, GEOL 110 or PHYS 101; PLB 115 or ZOOL 115, HIST 101a ¹ ; ENGL 121 or 204; One of AD 101, ENGL 203, HIST 201, MUS 103 or THEA 101; POLS 114; PSYC 102; HED 101; One of ENGL 308i, FL 310i, FL 313I or HIST 304i; One of ANTH 202, SOC 215, HIST 202 or HIST 210.	
<i>Requirements for Major in Health Education</i>	39
Health Education 301, 305, 312, 326, 355, 405, 407, 491 and 9 hours of electives from: 313, 330, 334 or 401	
Additional courses to meet certification requirements: Allied Health Careers Specialties 141, History 110	6

<i>Professional Education Requirements</i>	28
(See Teacher Education Program.)	
<i>Electives</i>	12
<i>Total</i>	120

¹Required to meet non-western civilization/third world culture requirement.

The two minimal professional preparation requirements for Illinois teachers are:

School Health Education: Health Education 301, 305, 355, 405 or 410, 407, 491 and at least two courses from the following: 312, 313s, 330, 401, 488.

Driver Education: Health Education 302s, 313s, 442s, 443s, plus three hours of electives from the following: 334, 445, 470s, 480s.

Courses (HED)

101-2 Foundations of Human Health. (University Core Curriculum) This course is designed to examine contemporary health-related issues for all dimensions of the individual — physical, mental, social, emotional and spiritual — through focus on health promotion and disease prevention. Emphasis is placed on maintaining or improving quality of life by developing personal and social skills (decision-making, communication, stress management, goal setting) across health education content areas, as well as identifying and accessing appropriate health-related resources.

301-3 Advanced Concepts of Health. Interrelatedness and interdependence of health as a total concept. Concepts of health and health education within the context of an option-expanding world are examined. Emphasizes role of the individual in assuming responsibility for one's own health behavior as well as education for a health-activated citizenry.

302S-3 Driver and Traffic Safety Education — Introduction. A beginning course that deals with the highway transportation system, traffic problems, the driving task, perception and implementation of the driver education classroom program. Observation of the teaching environment is included. Prerequisite: a valid driver's license.

305-3 Principles and Foundations of Health Education. An introductory professional course in the field, designed to implement the evolving concept that health education is both content and process; major concepts for a variety of teaching-learning approaches in school and other community settings are considered; health careers and opportunities in field are described. Prerequisite: 301 or concurrent enrollment in 301 for undergraduate health education majors.

311-3 Human Growth and Development. An overview of human development from conception through senescence. Designed for professional personnel who will be concerned with planning health programs for groups representing broad age ranges. Emphasis will be on physical, mental, and social dimensions of growth and development.

312-3 Emotional Health. Concepts of positive emotional development in terms of influence in the classroom and other community settings.

313S-3 Introduction to Safety Education. Introduces the principles and fundamentals of safety education. Concerns safety as a social problem and considers major accident areas, accident causes, liability, and analyzes possible solutions to accident problems.

326-3 Evaluation in Health Education. Principles and methods for monitoring the implementation of health education and for assessing its impact. Development and selection of valid and reliable measures. Use of standardized scores and other appropriate statistics. Applications in classroom and community settings. Prerequisite: 301 and 305 for undergraduate health education majors.

330-3 Consumer Health. Federal and state legislation affecting consumer health; official watchdog agencies on consumer health; non-official agencies (AMA, CU, etc.); health and advertising in health and medicine; cultists' and faddists' effect on consumer health.

334-3 First Aid and CPR. Provides students with first aid and cardiopulmonary resuscitation knowledge and skill competencies necessary to care for injuries and provide assistance in emergencies. The course can lead to certification in American Red Cross Standard First Aid Responding to Emergencies (RTE) and Cardiopulmonary Resuscitation. American Red Cross services and materials fee payable to local Red Cross chapter collected in class. Students will be required to pay a laboratory fee of \$5.

355-3 Introduction to Community Health. Organization and administration in local, state, and national official and non-official health agencies, their purposes and functions, and an overview of methods for meeting community health needs and for solving community health problems.

400E-2 to 3 Health Appraisal of School Children - Special Topics. Includes the screening, testing, and evaluation for numerous health conditions related to hearing, vision, the cardiovascular system, skin, spine, and such diseases as diabetes, tuberculosis, herpes, and other such ailments. Included will be classroom lectures and presentations, a supervised practicum, and all students will develop a viable program in a particular problem area in a public school program.

401-3 Epidemiological Approaches to Disease Prevention and Control. Principles and practices in the cause, prevention and control of diseases in various community settings. Prerequisite: 301 and 305 for undergraduate health education majors.

402-3 Death Education. Designed to prepare educators to conduct learning experiences about death and dying in a variety of school, college, medical care, and community settings. Stress will be placed on developing brief,

functional curricula and usable, imaginative teaching-learning materials, and on evaluating resource materials for use in educating at various levels of maturity.

403-3 Health Advocate Training. Provides students with knowledge and skills in the areas of peer health education, health advocacy, and referral. Instruction includes health care information from a wellness point of view. Prepares students for practicum in health advocate program. Credit will not count toward a master's degree in health education. Prerequisite: consent of instructor.

405-3 Sex Education. Examines various programs of sex and family life education in schools, recognizing a range of community attitudes. Prerequisite: 301 and 305 for undergraduate health education majors.

407-3 Drug Education. Meets requirements of Illinois state law for education concerning drugs including alcohol for grades K-12. Explores motivations behind use and abuse of drugs. Offers experiences in development of curriculum and teaching approaches and material.

410-3 Human Sexuality. Provides detailed in-depth information on such topics as philosophical views of sexual behavior, sex techniques, sex therapy, sexual variations, sexual anatomy and physiology, including the sexual response and changes with age and sexual development in childhood.

411-6 Emergency Medical Technician in the Wilderness. Placement of trained emergency medical technicians into a wilderness situation and having them adopt previously learned skills and newly developed skills. Prerequisite: 310 or 434.

430-3 Health and Injury Control in A Work Setting. (Same as Industrial Technology 430.) Assesses the health and injury control programs present in a work setting. Emphasis given to employee programs in health, wellness, and injury control that are effective. Field trips to work sites are included.

434-4 Advanced First Aid and Emergency Care. Meets the needs of those in positions where a complexity of first aid emergency care procedures are needed. American Red Cross and American Heart Association certification may be obtained. Materials purchased from the American Red Cross and/or the American Heart Association are required in this course. Consent of instructor required.

440-3 Health Issues in Aging. Students enrolled in the course will be involved in a wide variety of learning activities focusing on health needs of the elderly. The course is designed for students who have a special interest in health implications of aging.

441-3 Women's Health. The course deals with a wide variety of health concerns of American women as consumer in the current health marketplace. Major categories of topics include health products, health services, and sources of health information of particular interest to women. Emphasis is also placed on current health related issues of women. The major purpose of the course is to provide a basis for informed decision-making by the female consumer.

442S-5 Driver and Traffic Safety Education – Practicum. Provides prospective teachers with simulation, range, and on-road teaching experience with beginning drivers. Students may be required to purchase materials not to exceed \$15. Prerequisite: 302s.

443S-3 Driver and Traffic Safety Education – Program Administration. Emphasizes administration, reimbursement, scheduling, public relations, planning, and evaluation of driver education. Prerequisite: 442s or consent of instructor.

445-3 Advanced Driver Education Instructor Training. Prepares prospective instructors of advanced driving techniques. Emphasis is placed upon safe driving practices, vehicle dynamics, emergency vehicle operation, in-car response to simulated driving emergencies, and instructional techniques. Prerequisite: consent of instructor.

446-4 Motorcycle Rider Education Instructor Training. Provides prospective teachers with on-cycle teaching experience with beginner riders. Addresses program administration, scheduling, public information techniques, equipment procurement, evaluation and instructional technology. Certification as Motorcycle Rider Course Instructor can be obtained. Materials purchased from the Motorcycle Safety Foundation are required in this course. Prerequisite: consent of instructor.

450-3 Health Programs in Elementary Schools. Orientation of teachers to health programs and learning strategies. Designed for elementary education majors.

455-3 Computer Applications in Health Education. Designed for students with little or no previous experience with computers. The course will be applications oriented, with an introduction to the potential uses of computers in the field of health education.

461-1 to 12 Health Education Workshop. A different focal theme each year; e.g., mood modifying substances, ecology, human sexuality, emotional and social health dimensions. Information, ideas, and concepts are translated into teaching-learning materials and approaches; continuing opportunity for interaction between prospective and experienced teachers.

470S-3 Highway Safety as Related to Alcohol and Other Drugs. Relationship between alcohol and other drugs and traffic accident causes. A review of education programs designed to minimize drug related accidents. Prerequisite: advanced standing or consent of instructor.

471-2 Health Education Instructional Strategies. This course is designed for graduate students who are teaching assistants in Health Education. The purpose of the course is to enhance professional skills of those who are responsible for teaching health education, general education, and first aid.

476-3 Stress Management. A study of the physiological, emotional and sociological stressors and their underlying mechanisms in states of disease and health. Particular emphasis is placed upon prevention and control of stress via self assessment techniques and proficiency in self control techniques such as biofeedback, autogenic training, meditation and progressive muscle relaxation.

480S-3 Traffic and Driver Education Program Development. Acquaints students with curriculum innovation, current philosophy, learning and teaching theories, and instructional designs. Students will develop learning packages and modules. Prerequisite: 443s or consent of instructor.

483-3 Community Health Administration in the United States. Background and development of community health administration structures in the United States; the dynamics and trends evolving from current health and medical care programs and practices. Prerequisite: 355.

485-3 International Health. Health beliefs, values, and practices of peoples in various cultures as related to a total way of life of potential value to both prospective teachers and students in other fields.

488-3 Environmental Dimensions of Health Education. Application of the principles of learning to understanding people interacting with their environment. Emphasis placed upon individual and community responsibilities for promoting environmental health. Rural and municipal sanitation programs and practices are included.

489-3 Introduction to Vital Statistics. An introduction to bio-statistics; examination of theories of population projections; collection, organization, interpretation, summarization, and evaluation of data relative to biological happenings with emphasis on graphic presentation.

490-2 to 6 Field Experiences in School, Community Health or Safety Education. Field observation, participation, and evaluation of current school or community health education or safety programs in agencies relevant to student interests. Prerequisite: 301, 305, 326, 355, 491 and consent of instructor.

491-3 Health Teaching/Learning: School and Community. Teaching and learning strategies at secondary school levels and in other community group settings. Opportunities to examine and observe a variety of educational strategies applicable to health education. Prerequisite: 301 and 305; 405 and 407 or concurrent enrollment in 405 and 407 for undergraduate health education majors.

496-4 Industrial Hygiene. Provides a background in the recognition, evaluation, and control of toxic materials and hazardous physical agents in the work environment. Prerequisite: consent of instructor.

499-3 Rx: Education in Health Care Settings. Designed for members and potential members of the health care team to explore educational concepts and strategies applicable to a variety of health care settings. Includes rights and responsibilities of consumer and professional, determinants of health behavior, contrasting models of health care, communication skills, media and materials and planning, implementing and evaluating educational programs. Open to medical and dental personnel, nurses, health educators, dietitians, therapists, pharmacists, social workers, and related professionals.

Health Education and Recreation Faculty

Aaron, James E., Professor, *Emeritus*, Ed.D., New York University, 1960.

Abernathy, William, Assistant Professor, *Emeritus*, M.S. ED., Southern Illinois University, 1963.

Boydston, Donald N., Professor, *Emeritus*, Ed.D., Columbia University, 1949.

Bridges, A. Frank., Professor, *Emeritus*, D.H.S., Indiana University, 1952.

Glover, Regina, Associate Professor and Chair, Ph.D., University of Maryland, 1983.

Grissom, Deward K., Professor, *Emeritus*, Ed.D., Columbia University, 1952.

Hailey, Robert, Assistant Professor, *Emeritus*, M.Ed., University of Missouri, Columbia, 1959.

Kittleson, Mark J., Professor, Ph.D., University of Akron, 1986.

Lacey, Ella P., Associate Professor, *Emerita*, Ph.D., Southern Illinois University, 1979.

LeFevre, John R., Professor, *Emeritus*, Ed.D., Teachers Colleges, Columbia University, 1950.

Malkin, Marjorie J., Associate Professor, Ed.D., University of Georgia, 1986.

McEwen, Douglas, Professor, Ph.D., Michigan State University, 1973.

O'Brien, William, Professor, *Emeritus*, D.Rec., Indiana University, 1967.

O'Dell, Irma, Assistant Professor, Ph.D., University of New Mexico, 1992.

Ogletree, Roberta J., Associate Professor, H.S.D., Indiana University, 1991.

Phillips, Frances K., Associate Professor, *Emerita*, M.A., Columbia University, 1940.

Dinger, Mary K., Assistant Professor, University of Missouri, Columbia, 1993.

Drolet, Judy C., Professor, Ph.D., University of Oregon, 1982.

Fetro, Joyce V., Associate Professor, Ph.D., Southern Illinois University, 1987.

Glover, James, Associate Professor, Ph.D., University of Maryland, 1980.

Richardson, Charles E., Professor, *Emeritus*, Ed.D., University of California, Los Angeles, 1959.

Ritzel, Dale O., Professor, Ph.D., Southern Illinois University, 1970.

Russell, Robert D., Professor, *Emeritus*, Ed.D., Stanford University, 1954.

Sliepcevich, Elena M., Professor, *Emerita*, D.P.E., Springfield College, 1955.

Smith, Deborah A., Assistant Professor, Ph.D., Indiana University, 1998.

Teaff, Joseph, Professor, Ed.D., Columbia University, 1973.

Vaughn, Andrew T., Professor, *Emeritus*, D.Ed., Columbia University, 1958.

Vitello, Elaine, Professor, Ph.D., Southern Illinois University, 1977.

Vogel, Herbert, Assistant Professor, M.S., Indiana University, 1954.

Welshimer, Kathleen J., Associate Professor, Ph.D., University of North Carolina, 1990.

Wilken, Peggy A., Clinical Assistant Professor, Ph.D., Southern Illinois University, 1995.

Zunich, Eileen M., Assistant Professor, *Emerita*, Ph.D., Southern Illinois University, 1970.

Health Education and Recreation (Department)

(SEE HEALTH EDUCATION MAJOR OR RECREATION MAJOR)

History (Department, Major, Minor, Courses)

A major in history consists of thirty-six semester hours of history courses in addition to core curriculum requirements. Students who plan advanced study in preparation for college teaching or other professional work are advised to take additional work in their proposed specialty.

A number of different patterns are available for students anticipating various futures. Students should consult with departmental advisers to choose the pattern that fits their needs. The basic regulation is that, for a course to count toward the major, it must be approved in advance by one of the advisers in the department. Normally the department will accept a substantial part of the credits in history taken in other accredited institutions. In every case, transfer students must take at least 18 semester hours in history at Southern Illinois University Carbondale.

Advisers are available in the Department of History to assist students in planning their programs in accordance with current University and departmental regulations. Normally course selection should represent three areas of history (United States history, European history, and either Asian, African or Latin American history) and be distributed chronologically as well as geographically. Students must also complete a minimum of four courses at the 400 level and they must write two research papers in history. The first paper is done in History 392, and the second paper is done in History 492 taken in conjunction with a regularly scheduled 400-level history course. Both papers meet the College of Liberal Arts Writing-Across-the-Curriculum (WAC) requirement.

All history majors should meet with the department's undergraduate advisers each semester to keep up to date the records of their progress toward the degree and to receive advance approval of their courses. Transfer students should report to the department prior to their first semester of attendance. A C average in the major is required for graduation. A 2.5 average in the major is required before student teaching will be approved by the department.

Students with exceptional scholarly promise may be invited into the departmental honors program which begins with a colloquium and continues with an honors seminar and thesis prepared under the direction of a member of the department. Graduation with departmental honors in history is given to those who successfully complete the program.

Bachelor of Arts Degree, College of Liberal Arts

University Core Curriculum Requirements	41
College of Liberal Arts Academic Requirements (See Chpt 4)	14
Requirements for Major in History	36 ¹
History 205a,b or equivalent	6
History 300 and 301 or equivalent	6
History 392 or equivalent	2
History 492	1
History electives, 300 level or above distributed in two fields of his- tory	21
Electives	30
These may include 31 hours in professional education for teacher certification ²	
Total	121

Bachelor of Science Degree, College of Education

<i>University Core Curriculum Requirements</i>	41
To include ENGL 101, 102 and 121 or 204; SPCM 101; MATH 110 or 113 or approved substitute; CHEM 106, GEOL 110 or PHYS 101; PLB 115, 117 or ZOOL 115; PLB 301i, 303i or ZOOL 312i; HIST 101a or Non Western Civilization Substitute; AD 101, MUS 103, HIST 201 or THEA 101; POLS 114; PSYC 102; ANTH 202, HIST 202, 210 or SOC 215; HED 101 or PE 101.	
<i>Requirements for Major in History</i>	36 ¹
History 205a,b and two additional world history courses ³	12
History 300 and 301 and three additional U.S. history courses	14-15
History 392 or equivalent	2
History 492	1
History electives	6-7
<i>Education Requirements</i>	34
Professional Education Requirements	28
(See Teacher Education Program)	
Additional Certification Requirements	6
Curriculum and Instruction 469	
Psychology 102	
<i>Electives</i>	9
<i>Total</i>	120

¹At least twelve hours must be taken at the 400 level.²Students in CoLA seeking teacher certification should select courses as described under the College of Education.³World history study must include at least three hours other than European and U.S. history.**Minor**

A minor in history consists of 18 semester hours. The student is advised to balance courses between at least two of the three fields of American, European, or Third World history. Transfer students, in order to have a minor in history, must have taken at least nine semester hours in history at Southern Illinois University Carbondale.

Courses (HIST)

101-6 (3,3) The History of World Civilization. (University Core Curriculum) (a) [IAI Course: S2 912N] To Industrialization; (b) [IAI Course: S2 913N] Since the Age of Encounter. A survey of various civilizations in the world from prehistory to the present with particular attention to non-western cultures.

110-3 Twentieth Century America. (University Core Curriculum) The history of the United States since 1900. Surveys cultural, social, economic and political development, with special emphasis on domestic pluralism and changing international roles.

112-3 The Twentieth Century World. (University Core Curriculum) [IAI Course: S2 913N] The history of Europe, Asia, Africa and Latin America since 1900. Emphasis on political conflict, economic development, social change and cultural transformation in an increasingly integrated world.

201-3 Art, Music and Ideas in the Western World. (University Core Curriculum) [IAI Course: HF 902] The historical evolution of the visual arts, architecture and music in the context of society and literature, from ancient Greece to the present. It emphasizes the fundamental historical relationship of the different genres of human expression in Western culture.

202-3 America's Religious Diversity. (University Core Curriculum) [IAI Course: H5 905] An introduction to the basic concepts and histories of the world's religions and their place in American society. The purpose is to increase our understanding of cultural and religious diversity and how the various religious traditions inform our worldviews.

205-6 (3,3) History of Western Civilization. [IAI Course: (a) S2 902 (b) S2 903] (a) From ancient times through the sixteenth century; (b) The seventeenth century to the present. A brief survey of the major developments and trends in European history from ancient times through the 20th Century.

210-3 American Heritages (University Core Curriculum) [IAI Course: S2 901] The American experience as expressed in key texts written prior to the Twentieth Century. Emphasis on American pluralism and controversies related to race, ethnicity, gender and class.

300-3 The Origins of Modern America, 1492-1877. [IAI Course: S2 900] A general survey of political, social, and economic development of the United States from 1492 to 1877.

301-3 Modern American from 1877 to the Present. [IAI Course: S2 901] A general survey of the political, social and economic development of the United States from 1877 to the present.

303-1 to 3 Topics in Comparative History. A comparative study of recurring themes in the history of diverse societies and civilizations. Topics will vary and will be announced in advance. Topics to be covered include the problem of slavery, technology and society, war, and civilization.

304I-3 Islamic Religion and Culture. (University Core Curriculum) [IAI Course: H5 904N] Examines religious, cultural and socio-political developments in the Islamic world from the Prophet Muhammad to the present. Includes modernization and current problems in global contexts.

311-3 Ancient Civilizations. A comparative study of ancient near eastern and classical civilizations of the Fertile Crescent and the Mediterranean Basin: Mesopotamia, Egypt, Palestine, Greece and Rome.

315-3 Medieval Europe. The emergence of Europe from the Age of Constantine to the Black Death, with emphasis on the political, socio-economic, and cultural forces which were at work creating Europe.

320-3 Early Modern Europe. The development of Europe from the Renaissance through the Age of the French Revolution.

323-3 History and Artistic Creativity. A selected exploration of the specific conditions in Western history, from the Renaissance to the present, which have encouraged and given direction to creativity in the arts.

324-3 Women in Western Society: 1600 to Present. (Same as Women's Studies 348.) The legal, social, economic, and political position of women in Western society during the past 350 years are examined against the backdrop of industrialization, political democratization, world wars, and totalitarianism. Emphasis is on women in England, France, and the US.

325-3 Europe Since 1815. The development of Europe from the Age of the French Revolution to the present day.

330-6 (3,3) English History. (a) England to 1688; (b) England since 1688. Political, social, economic, and cultural history of England.

336-3 Twentieth-Century Dictatorships and Global Conflict 1919-1945. The emergence of the Axis dictatorships in Europe and the Far East, their ideology, expansion, aggression and their defeat in World War II.

338-3 Eastern Europe. An historical survey of the East European area from the Baltic to the Balkans, with emphasis on the modern era.

339-3 Twentieth-Century Russian Culture and Society. A survey of intellectual, literary and socio-economic trends in late imperial Russia and the Soviet Union. Discussion of the non-Russian peoples of the Empire and USSR and nationalism.

350-2 The Revolution and the Constitution in American History. An introduction to the causes and consequences of the American Revolution with special focus on the political principles contained in the Declaration of Independence and the Constitution and the effects these documents have had on American history.

354-3 The Contemporary United States. A survey of the social, economic, political and cultural changes in the United States since the end of World War II, focusing on such topics as the Cold War, changes in the lives of women and minorities, the Vietnam War, the social movements of the 1960s, the imperial presidency, and the Reagan revolution.

355-3 The Radical View in American History. A survey of American radicalism from the revolution to the present, with an emphasis on twentieth century movements for social change.

361-3 Race and History in the United States. (Same as Black American Studies 360.) This account of racial attitudes and race relations begins with the 16th century European racial experience and covers subsequent developments in the U.S. to the present time. The problem of race is treated in its several dimensions, but principal emphasis falls upon the historical consequences of Caucasian confrontations with blacks, Hispanics, and native Americans.

362-6 (3,3) Black American History. (Same as Black American Studies 311.) (a) Black American history to 1865; (b) black American history since 1865. The role of blacks and contribution in the building of America and their ongoing fight for equality.

364-3 The Great Depression in the United States. Causes and effects of the Great Depression and of governmental measures for relief, recovery, and reform during the years 1929-1942.

365-3 American Immigration. A history of American immigration and ethnicity from colonial times to the present, with primary attention upon the peoples of the United States and the diverse lands from which they have come.

366-3 American Indian History. A comprehensive history of American Indians from prehistoric times to the present.

367-3 History of Illinois. The history of the state from 1818 to the present.

368-3 American Religious History. A chronological and thematic history of religion in America focusing on (1) the diversity of American religions from the religions of the Amerindian to the development of new religious movements, and (2) the unity of American religion mediated through mainstream Protestantism and civil religion.

369-3 History of the American Family. (Same as Women's Studies 346.) A survey of the American family from its origins to the present, focusing on the variety of families — English, African, later immigrants, middle class, and poor. During the course students will write their own family histories, thereby applying what they have learned to their own lives.

370-6 (3,3) History of Latin America. (a) Colonial Latin America. (b) Independent Latin America. An introduction to the political, economic, social, and cultural development of Latin America from Pre-columbian times to the present.

380-6 (3,3) History of East and South Asia. (a) China and Japan; (b) India and Southeast Asia. The first semester focuses on China and Japan from early times to the present; the second semester concentrates on India and Southeast Asia in modern times.

385-3 Islam and the West. A history of the religious and cultural interaction between the Islamic and Western world. Surveys the changing image of Islam in western literature, the Muslim response to secularism, and the Islamic presence in Europe and America.

387-6 (3,3) History of Africa. (a) To 1800; (b) Since 1800. A chronological study of African peoples from earliest times to the present, including ancient Egypt, Ethiopia, the Era of the African Kingdoms, the role of Islam, the slave trade, African-European relations, colonialism, African nationalism and independence.

390-3 History in Fiction. A comparative study of fictional accounts and of analyses written by historians over selected periods or topics.

392-2 Historical Research and Writing. Methods of historical investigation, criticism and composition. Restricted to undergraduate majors in history. Fulfills the CoLA Writing Across the Curriculum (WAC) requirement. Prerequisite: history majors.

393-3 Twentieth Century Military History. An introduction to the problems of armed conflict throughout history with particular emphasis on the twentieth century and the transformation of warfare during the era of the World Wars. Prerequisite: sophomore standing or consent of instructor.

395-3 Honors. Great ideas and works of history, with discussion of conflicting interpretation of major historical problems. Prerequisite: junior standing and consent of department.

411-3 World of Ancient Greece. An investigation into the societies, cultures and governments of Greece and the Eastern Mediterranean from the time of the Trojan War to the conquests of Alexander the Great. The course will focus on primary sources and modern analyses pertaining to such issues as slavery, democracy, religion, Athenian imperialism and cultural difference.

412-3 World of Ancient Rome. An investigation into the society, culture and government of the Romans and the peoples they conquered from the time of Romulus and Remus to the barbarian invasions. The course will focus on primary sources and modern analyses pertaining to such issues as imperial expansion and decline, Roman law and politics, social conflict and cultural difference.

413-6 (3,3) Medieval Society. (a) The Early Middle Ages. A.D. 400-1000; (b) The Late Middle Ages, A.D. 1000-1400. An examination of the distinctive elements of medieval European civilization. The first semester will consider the transition from ancient to medieval society and the gradual development of a new social and economic regime. The second semester will be devoted to a study of the full development of that new regime, its flowering in the 13th century and the crisis of the 14th century.

418-3 Renaissance. The focus on the Renaissance in Italy and in particular on its relation to the social and economic context in which it developed. The spread of humanism and humanistic values to other areas of Europe will also be considered.

420-3 Reformation. Concentrates on the movement of religious reforms in the 16th Century. Emphasis on its roots in the past, particularly in earlier expressions of popular piety and to the wider social and political effects in the 16th and 17th centuries.

421-6 (3,3) Absolutism and Revolution: Europe 1600-1815. (a) 1600-1715; (b) 1715-1815. The development of enlightened despotism, the rise of the revolutionary movement, and the Napoleonic period.

422-6 (3,3) Intellectual History of Modern Europe. (a) 1600-1815; (b) Since 1815. The first semester will cover the Age of Reason, the Enlightenment, and Early 19th Century Romanticism. The second semester will cover the period from Marx and Darwin to the Contemporary World.

423-3 Diplomatic History of Modern Europe. A study of the European state system and the diplomacy of the major powers, with emphasis on events since 1870.

424-6 (3,3) Social and Revolutionary Movements in Nineteenth Century Europe. (a) 1815-1871; (b) 1871-1914. Changing social and political structure of Europe caused by the impact of industrialization and the French Revolution. The consequences of these developments in terms of the emergence of new social forces and the development of movements for social and political revolution.

425-6 (3,3) Twentieth Century Europe. (a) Era of the World Wars; (b) Since 1945. Political, social, cultural and economic development of the major European states during the present century.

432-3 History of France. Social, economic, political, and intellectual evolution from medieval origins to the present day. French contributions to western culture.

433-6 (3,3) History of Germany. German state and society from antiquity to the present. (a) to 1866; (b) since 1866.

434-3 History of Scandinavia. Denmark, Norway, Sweden, Finland, and Iceland. Related history of the Baltic and North Sea regions, from prehistoric times to the present.

437-6 (3,3) History of Russia. (a) Russia from the beginnings to the 1860s: Kievan Rus, Muscovy, and Imperial Russia to the emancipation of the serfs; (b) Imperial Russia and the Soviet Union from 1865 to the present day. Emphasis on political history.

438-3 History of Poland. History of Poland as a state and nation, with an emphasis on the modern period (since the partitions and Napoleonic wars). Political and social movements, nationalism and Polish-Jewish relations will be among the topics explored.

440-3 Tudor-Stuart England. England from 1485 to 1714. The social, economic and political development of Britain during the crucial two centuries from late feudal anarchy to world power.

442-6 (3,3) English History and Culture. (a) from 1660 to 1780; (b) 1780 to 1914. An examination of English society and values in novels, essays, memoirs and paintings. The first semester analyzes social and political stability, secularization, economic transformations, and foundations of empire. The second semester investi-

gates industrialization, urbanization, the democratization of politics, the growth of empire and changing roles for women and the family. Prerequisite: 330b or consent of instructor.

443-3 Twentieth Century England. The social, economic and political development of England in the twentieth century.

445-3 British Empire. A survey of the British Empire, from the loss of the American colonies to the onset of decolonization at the end of the Second World War. It focuses on the intersections between the histories of Britain and of its imperial possessions in Africa, Asia and the British West Indies. Special attention will be given to the role of the nation and of race, class, gender and sexuality in the making of the British Empire.

450-6 (3,3) Early America. The evolution of American society from European settlement through the Age of Jefferson, with special emphasis on social and political institutions and thought.

451-3 United States History, 1815-1850. The struggle for democratic institutions and the emergence of sectional conflict in the Jacksonian Era.

452-6 (3,3) United States History 1850-1896. (a) Civil War era; (b) the origins of modern America; reconstruction and nationalization; 1865-1896. The study of the background to the Civil War, the Civil War, Reconstruction, and the Gilded Age.

453-6 (3,3) United States History, 1896-1945. (a) 1896-1921; (b) 1921-1945. The history of the United States since the 1890's with emphasis upon politics, political ideas and diplomacy.

454-6 (3,3) Cold War United States, 1945-1990. (a) 1945-1963; (b) 1963-1990. Topical course emphasizing the impact of the Cold War on United States society. (a) Focuses on foreign policy debates, domestic anti-communism and cultural effects of the Cold War. (b) Focuses on the Vietnam War, the arms race and the effects of the Cold War on economic and social issues (poverty, civil rights, the environment).

460-6 (3,3) Social History of the United States. (a) to 1860; (b) since 1860. The historical development of relationships among America's various ethnic, religious, racial, economic, and sexual groups.

461-6 (3,3) Constitutional History of the United States. (a) To 1877; (b) from 1877. Origin and development of the American Constitution from the English background to the present time. Stress is placed on the political, social, and economic forces which influenced the American constitutional system.

462-3 History of American Health and Medicine. Readings and discussion about the development of modern medicine as it affected patients and doctors in the United States. Health care will be traced historically, with discussions of the development of medical science as well as medical organizations and institutions.

463-6 (3,3) History of American Diplomacy. (a) To 1900; (b) Since 1900. General consideration of American foreign policy and the emergence of the United States as world power.

464-3 U.S. Economic and Business History. This course examines the growth of the American economy, economic thought, the evolution of the firm, and the changing place of women and minorities in American business society. It also explores the intersection between business and other institutions in American life, including labor, law, literature, government, education and religion.

465-6 (3,3) History of the South. (a) The Old South; (b) The New South. Social, economic, political, and cultural development of the South.

466-6 (3,3) History of the American West. (a) Trans-Appalachian Frontier; (b) Trans-Mississippi Frontier. The American frontier and its impact on American society from the colonial period to the 20th century.

467-3 History of American Thought to 1860. The principal intellectual currents in American thought and culture from the 17th Century through the mid-19th Century. Major themes include the intellectual origins and manifestations of Puritanism, the Enlightenment, and Romanticism.

468-3 Law and the Social Control of Women in American History. (Same as Administration of Justice 468 and Women's Studies 468) An examination of the ways in which the law affects the behavior, life chances, identities and experiences of women, from colonial times to the present. Team taught by faculty from History and Administration of Justice.

469-3 Darwin and the Darwinian World. Readings and discussion on the impact of Charles Darwin on American thought and culture. Focus areas include religion, social ethics, political criticism, social critics, economics, the genteel tradition, utopian writers, race, and imperialism.

470-6 (3,3) Continuity and Change in Latin America. (a) To 1825; (b) Since 1825. The interaction of economic forces and intellectual currents with Latin American social structures and political institutions, from pre-Columbian times to the present.

474-3 Andean South America. The political, economic, social, and cultural development of the Andean nations from pre-Columbian times to the present.

480-6 (3,3) History of Chinese Civilization. (a) Traditional China; (b) Modern China. The first semester provides a full coverage of traditional China and emphasis on classical philosophies, religions, historical writings, literature, arts, and science. The second semester deals with the transformation of China into the modern ages.

482-3 Modern India. A survey of modern Indian history, from the advent of British colonialism in India to independence. The course emphasizes the impact of colonialism on India and the struggle against British rule.

484-3 History of Central Asia. Tribes, migrations, wars, and power politics in Central Asia and outlying areas of China from Han times through 19th century rivalries to latest developments along the Sino-Soviet frontier.

485-3 Islamic World to 712. A study of the formative years of Islam, and of events which led to the establishment of the first Muslim empire, extending from Spain in the West to India in the East.

487-3 Modern Islamic World. Surveys the cultural, social and political impact of Islam on world civilization since the 18th century, with an emphasis on the internal changes within Islam as a result of cross-cultural contact. The impact of colonization on the Muslim world and subsequent reform movements are examined.

490-1 to 4 Special Readings in History. Supervised readings for students with sufficient background. Prerequisite: registration by special permission only.

491-3 Historiography. Writings of historians from Herodotus to the present.

492-1 Senior Paper. A research paper to be done in conjunction with a regularly scheduled 400-level history course. Students may also complete 492 in conjunction with a 300-level course (excluding History 300, 301 and 392), but only with the instructor's consent. Fulfills the CoLA Writing Across the Curriculum (WAC) requirement. Not for graduate credit. Prerequisite: 392.

493-1 to 6 Problems in History. Topics vary with instructor. May be repeated for a maximum of six semester hours provided registrations cover different topics. Topics announced in advance.

494-3 Quantitative Research in History. An introduction to the application of quantitative data and social science methods to historical research.

495-4 History Honors. Principles of historical method, research, and writing for senior honor students only. Not for graduate credit. Prerequisite: consent of department.

496-1 to 9 Internship in History. Supervised field work in public or private agencies or operation where history majors are frequently employed, such as archives and libraries, government offices, communications media, historic sites, and museums. Only three hours may be applied to the major and six hours toward the M.A. degree. Prerequisite: consent of department.

497-3 Historical Museums, Sites, Restorations and Archives. The development of museums from antiquity to the present, with emphasis on the United States. Additional topics include historical sites such as battlefields, historic buildings, restorations, monuments and archives. Also examines the purposes and functions of the museum and the tasks of professionals employed in museums or interpretative centers. Given in cooperation with the University Museum.

History Faculty

Adams, Jane, Associate Professor, Ph.D., University of Illinois, 1987.

Allen, Howard W., Professor, *Emeritus*, Ph.D., University of Washington, 1959.

Allen, James S., Professor, Ph.D., Tufts University, 1979.

Ammon, Harry, Professor, *Emeritus*, Ph.D., University of Virginia, 1948.

Argersinger, Jo Ann E., Professor and *Chancellor*, Ph.D., The George Washington University, 1980.

Argersinger, Peter H., Professor, Ph.D., University of Wisconsin, 1970.

Barton, H. Arnold, Professor, *Emeritus*, Ph.D., Princeton University, 1962.

Batinski, Michael C., Professor, Ph.D., Northwestern University, 1969.

Bean, Jonathan J., Assistant Professor, Ph.D., The Ohio State University, 1994.

Bengtson, Dale R., Assistant Professor, Ph.D., Hartford Seminary Foundation, 1971.

Carr, Kathryn, Associate Professor, Ph.D., University of Chicago, 1987.

Carrott, M. Browning, Associate Professor, *Emeritus*, Ph.D., Northwestern University, 1966.

Chen, Jian, Associate Professor, Ph.D., Southern Illinois University Carbondale, 1990.

Conrad, David E., Professor, *Emeritus*, Ph.D., University of Oklahoma, 1962.

Detwiler, Donald S., Professor, *Emeritus*, Dr. Phil., Göttingen University, Germany, 1961.

Dotson, John E., Professor, Ph.D., Johns Hopkins University, 1969.

Fanning, Charles F., Professor, Ph.D., University of Pennsylvania, 1972.

Fladeland, Betty L., Distinguished Professor, *Emerita*, Ph.D., University of Michigan, 1952.

Gardiner, C. Harvey, Professor, *Emeritus*, Ph.D., University of Michigan, 1945.

Gold, Robert L., Professor, *Emeritus*, Ph.D., University of Iowa, 1964.

Haller, John S., Professor and *Vice President for Academic Services*, Ph.D., University of Maryland, 1968.

Kuo, Ping-Chia, Professor, *Emeritus*, Ph.D., Harvard University, 1933.

Lieberman, Robbie, Associate Professor, Ph.D., University of Michigan, 1984.

McGuire, Mary K., Assistant Professor, Ph.D., University of Michigan, 1996.

Morgan, Marjorie L., Associate Professor, Ph.D., Tulane University, 1988.

Murphy, James B., Associate Professor, *Emeritus*, Ph.D., Louisiana State University, 1968.

O'Day, Edward J., Associate Professor, *Emeritus*, A.M., Indiana University, 1956.

Shelby, Lon R., Professor, *Emeritus*, University of North Carolina, 1962.

Simon, John Y., Professor, Ph.D., Harvard University, 1961.

Simon, Paul, University Professor.

Sinha, Mrinalini, Associate Professor, Ph.D., SUNY at Stony Brook, 1988.

Stocking, Rachel L., Assistant Professor, Ph.D., Stanford University, 1994.

Vester, Matthew A., Assistant Professor, Ph.D., University of California at Los Angeles, 1997.

Vyverberg, Henry S., Professor, *Emeritus*, Ph.D., Harvard University, 1950.

Weeks, Theodore, Associate Professor, Ph.D., University of California-Berkeley, 1992.

Werlich, David P., Professor and *Chair*, Ph.D., University of Minnesota, 1968.

Wiesen, S. Jonathan, Assistant Professor, Ph.D., Brown University, 1997.

Wilson, David L., Professor, Ph.D., University of Tennessee, 1974.

Wu, Tien-Wei, Professor, *Emeritus*, Ph.D., University of Maryland, 1965.

Industrial Technology (Major, Courses)

The industrial technology major has as its objective the training of qualified personnel who can develop and direct the production and distribution of products and services. There are two specializations: manufacturing technology and mining technology; however, the mining technology specialization is presently inactive.

The major is designed to prepare management-oriented technical professionals in the economic-enterprise system. Industrial technology professionals will be involved with:

1. The application of significant knowledge of theories, concepts, and principles found in the humanities and the social and behavioral sciences, including a thorough grounding in communication skills.
2. The understanding and ability to apply principles and concepts of mathematical and physical sciences.
3. The application of concepts derived from, and current skills developed in, a variety of technical disciplines including, but not limited to, robotics, processes, computer-aided manufacturing, quality control, motion and time study, plant layout, facilities planning, industrial safety, production and inventory control, human relations, and computer-aided drafting.

The industrial technology curriculum is flexible enough to provide the means whereby graduates of two-year occupational programs may obtain a Bachelor of Science degree. A graduate of a two-year industrially-oriented occupational program, such as aviation, construction, drafting, data processing, electronics, machine tool, mechanical, and mining may have an appropriate preparation to pursue a Bachelor of Science degree with a major in industrial technology.

Students with work related experience may receive credit toward the degree via Industrial Technology 258. Additional flexibility in earning credit toward the degree is possible through cooperative work experience provided meaningful employment is available.

A Capstone option may be available in the industrial technology major and is explained in Chapter 4 of this bulletin. Students holding associate degrees of at least 60 semester hours in non-baccalaureate-oriented programs or equivalent certification with a minimum grade point average of 2.25 are qualified. For the industrial technology major, the associate degree or equivalent certification should be in an industry-related field. This option permits qualified students to fulfill their degree requirements by completing 60 semester hours of work approved by the Capstone adviser. Each individual's program of study may differ according to the previous academic work.

The industrial technology program is accredited by the National Association of Industrial Technology. For each curriculum, a minimum of 30 hours in industrial technology courses must be taken in residence at Southern Illinois University Carbondale.

Bachelor of Science Degree, College of Engineering

INDUSTRIAL TECHNOLOGY MAJOR – MANUFACTURING TECHNOLOGY SPECIALIZATION

The manufacturing technology specialization is designed to prepare graduates for supervisory and technical management positions in manufacturing. Curriculum requirements are broad based to enable the graduate to obtain employment in manufacturing areas such as quality control, processes, safety, methods analysis, and computer-aided manufacturing/robotics. The Capstone option feature is available for students and is described in Chapter 3 of this bulletin.

<i>University Core Curriculum Requirements</i>	41
Foundation Skills	12
English 101, 102	6
Mathematics (substitute Mathematics in major)	3
Speech Communication 101	3
Disciplinary Studies	23
Fine Arts	3
Human Health	2
Humanities	6
Science (substitute Physics in major for 3 hours)	6
Social Science	6
Integrative Studies	6
Multicultural	3
Interdisciplinary	3
<i>Requirements for Major in Industrial Technology with a Specialization in Manufacturing Technology</i>	(6) + 79 ¹
Industrial Technology Core Requirements	28-29
Physics 203a,b, 253a,b	(3) + 5
Mathematics 111	(3) + 2
Mathematics 140 or Industrial Technology 307	4
Psychology 323 or Industrial Technology 240	3
Computer Science 200b or Industrial Technology 270	3
Industrial Technology 105, 305, 382, 475	12
Specialization in Manufacturing Technology	50-51
Industrial Technology 208, 375, 390, 392, 440, 445	18
Technical Electives	23-24
Electives	9
<i>Total</i>	120

INDUSTRIAL TECHNOLOGY MAJOR – MINING TECHNOLOGY SPECIALIZATION

The mining technology specialization is presently inactive. It is designed to prepare graduates for supervisory and technical positions in the mining industry. Course requirements are specifically planned to complement the mining technology background of the community college or technical institute associate degree graduate. The Capstone option feature is available for students and is described in Chapter 3 of this bulletin.

<i>University Core Curriculum Requirements</i>	41
Foundation Skills	12
English 101, 102	6
Mathematics (substitute Mathematics in major)	3
Speech Communication 101	3
Disciplinary Studies	23
Fine Arts	3
Human Health	2
Humanities	6
Science (substitute Physics in major)	6
Social Science	6
Integrative Studies	6
Multicultural	3
Interdisciplinary	3
<i>Requirements for Major in Industrial Technology with a Specialization in Mining Technology</i>	(6) + 79 ¹
Industrial Technology Core Requirements	32
Geology 220	3

Physics 203a,b, 253a,b	(3) + 5	
Mathematics 111	(3) + 2	
Mathematics 140	4	
Psychology 323	3	
Computer Science 212	3	
Industrial Technology 105, 305, 382, 475	12	
Specialization in Mining Technology		47
Industrial Technology 320, 321, 360, 410, 420, 460	18	
Engineering Technology 263	3	
Technical Electives	26	
Total		120

¹Courses in parenthesis that are required in the major will also apply towards 6 hours in the University Core Curriculum, making a total of 41 in that area.

Industrial Technology Suggested Curricular Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
PLB 115, 117, ZOOL 115	-	3	Select ¹	6	6
Select ¹	5	6	SPCM 101	3	-
ENGL 101, 102	3	3	CS 200b.....	-	3
IT 105.....	3	-	IT 208.....	3	-
MATH 111	5	-	IT Elective	-	3
MATH 140	-	4	PHYS 203a,b	3	3
			PHYS 253a,b	1	1
Total.....	16	16	Total.....	16	16
THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
IT 305.....	-	3	PSYC 323	-	3
IT 375.....	3	-	Select.....	2	-
IT 382.....	3	-	IT 440.....	-	3
IT 390.....	-	3	IT 445.....	3	-
IT 392.....	-	3	IT 475.....	3	-
Select.....	9	6	Select.....	6	6
Total.....	15	15	Total.....	14	12

¹ See University Core Curriculum requirements
² Substitutes for University Core Curriculum

Courses (IT)

Safety glasses, a suitable scientific calculator, and textbooks are required for most of the following courses.

- 105-3 Computer-Aided Drafting.** (Same as Engineering Technology 103). Links the components of technical sketching with current CAD software. Sketching to include: orthographic projection, sectional views and dimensioning. Employ these elements with current CAD software in creating drawing entities, managing layers, displaying and modifying drawings, annotating and dimensioning, and file management.
- 208-3 Fundamentals of Manufacturing Processes.** Introduction to the basic processes, equipment, and material used in manufacturing. Includes plastics, metal removal, materials joining, casting, and some of the newer processes.
- 209-3 Manufacturing Process Laboratory.** (Same as Engineering Technology 209.) Laboratory experiments to familiarize the student with the theory and operation of manufacturing processes. Laboratory. Prerequisite: 208 or consent of instructor.
- 240-3 First-Line Supervision.** Analysis of problems of first-line supervisors. Topics include leadership, motivation, communication, grievances, training, discipline, group and individual effectiveness, and labor relations.
- 258-2 to 30 Work Experience Credit.** Credit granted for past work experience while employed in fields related to the student's educational objective. Credit is established by departmental evaluation.
- 259-2 to 60 Occupational Credit.** For occupational credit earned at junior colleges and technical institutes. Credit is established by departmental evaluation.
- 270-3 Computational Methods for Industrial Technologists.** Introduces the student to a problem-oriented computer language that is used to solve relevant problems that occur in industry.
- 305-3 Industrial Safety.** Principles of industrial accident prevention; accident statistics and costs; appraising safety performance; recognizing industrial hazards and recommending safeguards. Includes a study of the Occupational Safety and Health Act and the Coal Mine Health and Safety Act.

307-3 Applied Calculus for Technology. Applying mathematical techniques to technology problems, including the analysis, formulation, and problem solutions. Techniques of differentiation, max-min problems, and elementary techniques of integration. Prerequisite: Mathematics 111 or equivalent.

319-2 to 16 Industrial Internship. Industrial experience includes job skills, manufacturing processes, technical information, and labor-management relationships with supervised instruction, conferences, and examinations. Prerequisite: consent of instructor. Mandatory Pass/Fail.

320-3 Surface Mining Operations. The elements of surface mining, methods and equipment, surface mine terminology, pit development, and equipment selection. Field trips. Prerequisite: appropriate background.

321-3 Underground Mining. Study of terminology, mining methods, equipment selection, ventilation, haulage, coal handling, and safety parameters associated with underground coal extraction technology.

330-1 Current Mining Problems. Guest lecturers provide timely information on current mining technology problems. Special investigations of mining techniques. Emphasis on state and federal regulations.

341-3 Maintenance. Principles and practices of maintenance department organization, preventative procedures, and typical equipment problems. Also, includes related topics such as plant protection, custodial services, and maintenance of powerplants.

342-1 to 12 Industrial Technology Cooperative Education. Supervised work experience in industry with an emphasis on manufacturing. Students will gain first-hand knowledge of the various aspects of Industrial Technology. Work experience is supervised by a faculty. Reports will be required from the student and employer. Hours may count toward technical electives. Mandatory Pass/Fail. Prerequisite: junior standing.

351-3 Industrial Metrology. Methods and equipment of industrial measurement and inspection. Includes 3-D measuring machines, lasers, and non-destructive testing.

360-3 Mine Production and Inventory Control. Study of mine production and inventory control through the exploration, development, and production phases. Includes topics in planning, process control equipment, scheduling, inventory control, and cost analysis.

362-3 Industrial Packaging. Analysis of packing principles, equipment, and processes such as paper, glass, metal containers, and plastics.

375-3 Production and Inventory Control. Production and inventory control systems. Includes topics in forecasting, master production scheduling, material requirements planning, capacity requirements planning, inventory management, production activity control, and applicable operations research techniques.

382-3 Motion and Time Study. Principles and practices of motion and time study including process charts, operation charts, motion summary, and time standards.

386-3 Total Quality. Application of quantitative methods and human resources to improve product quality, enhance productivity, customer satisfaction, manufacturing organizational effectiveness and ability to compete in a global market.

390-3 Cost Estimating. (Same as Engineering Technology 390.) Study of the techniques of cost estimation for products, processes, equipment, projects, and systems. Prerequisite: Mathematics 111.

392-3 Facilities Planning. The analysis of data to produce a complex facilities plan which maximizes the efficiency of the operation. Methods and equipment of material handling are an important part of the course. Students are assigned an extensive facilities planning project. Prerequisite: 208 and 382 or consent of instructor.

395-3 Technology Design. An elective project on a technical subject selected by the student with advice from the instructor. Stimulates original thought and creativity. Prerequisite: consent of instructor.

410-3 Mining Reclamation. Study of reclamation techniques associated with underground and surface coal mining. Emphasis is placed on the integration and cost trade-offs associated with coal extraction and reclamation as well as federal, state, and local regulations. Prerequisite: consent of instructor.

420-3 Coal Preparation and Analysis. Study of coal preparation and blending in association with coal analysis. Design and operation of preparation plants including water management, waste management, coal storage, loading, and transportation.

425-3 Advanced Process Design and Control. Extension of other process courses offered. Meets the need of those students who enter the field of manufacturing by giving more emphasis on planning, estimating, and control of industrial processes. Laboratory. Prerequisite: 208, 209.

430-3 Health and Injury Control in A Work Setting. (Same as Health Education 430.) Assesses the health and injury control programs present in a work setting. Emphasis given to employee programs in health, wellness, and injury control that are effective. Field trips to work sites are included.

439-3 Bulk Materials Handling. Study of the various types of equipment used in the mining industry. Estimation of costs and output of equipment used for excavating and transporting earth materials. Prerequisite: appropriate background.

440-3 Manufacturing Policy. Review of all areas covered by the industrial technology program. Includes problems which simulate existing conditions in industry. Students present their solutions to the class and to the instructor in a formal manner. Prerequisite: 375, 382, 392 and 475.

441-3 Mine-Safety Technology. An in-depth study of the technological implications of the Federal Coal Mine Health and Safety Act. Emphasis is placed on the technology required to operate safely underground coal mines. Prerequisite: appropriate background.

445-3 Computer-Aided Manufacturing. (Same as Engineering Technology 445.) Introduction to the use of computers in the manufacture of products. Includes the study of direct and computer numerical control of machine tools as well as interaction with process planning, inventory control, and quality control. Laboratory. Prerequisite: Engineering Technology 103 or Industrial Technology 105, Industrial Technology 208 or Engineering Technology 209 and computer programming.

455-3 Industrial Robotics. (Same as Engineering Technology 455.) Study of industrial robots and their applications; pendant and numerical programming of robots. Robotics design including tactile and visual sensors. Technical and psychological problems of justification, installation, and management of robotic systems. Prerequisite: 445.

460-3 Mining Technology. A capstone course to include all aspects of coal mining. Group projects are assigned on the design and development of a mine with emphasis on cost, productivity, yield, equipment, and staffing. Prerequisite: 320, 321, 420, or consent of instructor.

475-3 Quality Control. Use of statistical quality control to improve work product quality. Topics include histogram, Pareto diagrams, control charts, acceptance sampling, process capability, cause and effect diagrams, and reliability. Prerequisite: senior standing.

492-1 to 6 Special Problems in Industry. Special opportunity for students to obtain assistance and guidance in the investigation and solution of selected industrial problems. Not for graduate credit. Prerequisite: consent of instructor.

494-1 to 9 (1 hour per section) Applied Project. Selected applied project. Requires the students to apply knowledge learned in various courses to the solution of industrial problems. (a) Motion and time study, (b) Cost estimating, (c) Materials handling and plant layout, (d) Production and inventory control, (e) Quality control, (f) Manufacturing policy, (h) Fundamentals of industrial processes, (i) Industrial safety, (k) Computer-aided manufacturing. Not for graduate credit. Prerequisite: consent of instructor.

Industrial Technology Faculty

(See Technology)

Information Management Systems (Department, Courses, Faculty)

Courses (IMS)

The Department of Information Management Systems in the College of Applied Sciences and Arts offers the following core curriculum substitutions and technically-related courses. These courses serve as common requirements for various majors. Selected courses are available to students enrolled in other academic units.

101-3 Introduction to Information Processing. The successful student should be able to demonstrate an understanding of basic terminology, procedures, applications and equipment used in information processing. Topics covered will range from simple computer processing techniques to advanced contemporary applications. Credit cannot be given for both 101 and Information Systems Technologies 109. Lecture three hours.

105-4 (2,2) Technical Mathematics. Will enable the student to solve problems within the context of engineering technologies. Lecture-discussion, four hours per week for eight weeks. The use of an electronic calculator with scientific functions is required. (a) Emphasizes the use of algebraic equations and geometric relationships and formulas, and right triangle trigonometry. Prerequisite: one year of high school algebra or equivalent as determined by department. (b) Emphasizes the application of trigonometric relationships to problems in applied technologies and contains additional topics in algebra, including linear systems, quadratic equations and exponential and logarithmic functions. Prerequisite: 105a or equivalent as determined by department.

107-4 (2,2) Applied Physics. Places emphasis on basic and applied physics at a level consistent with technical education objectives. The student will learn laws and principles and solve problems pertaining to (a) mechanics and the structure of matter, (b) heat and electricity. Lecture-discussion four hours per week for eight weeks for both (a) and (b). Prerequisite: 105a or equivalent as determined by department. 107a is prerequisite to 107b.

120-3 Fiscal Aspects of Applied Sciences and Arts I. An individualized program of instruction designed to acquaint students enrolled in the various technical programs of the College of Applied Sciences and Arts with applications and procedures common to their area of specialization. Students will be able to demonstrate a basic working knowledge of the standard documents and procedures related to their specific area through the use of business working papers and practice sets. Open to students in the College of Applied Sciences and Arts and other with consent of instructor. Lecture three hours.

131-3 Information Processing Applications. The successful student will demonstrate by examination a general knowledge of processing procedures and terminology for basic business applications such as billing, accounts payable and receivable, inventory control, and payroll. In addition, the successful student will implement selected business procedures on microcomputers using appropriate applications software packages, such as word processing, data base, and spread sheets. Lecture three hours.

213-6 Information Processing Project. The successful student will design and implement a minisystem for a problem approximating the type encountered in industry by entry-level programmers. The student draws upon knowledge gained in previous courses and develops an understanding of how the various subject matter fits together. Lecture three hours. Independent laboratory four hours. Prerequisite: 212 with a grade of C or better, 232, 233 or consent of instructor.

220-3 Fiscal Aspects of Applied Sciences and Arts II. A continuation of 120 for selected curriculum areas. Emphasis on continued development of knowledge and skills typically involved in small business management, ownership, partnerships and corporations. New areas of study will include automated data processing, cost estimating and payroll tax procedures through the use of business working papers and a practice set. Prerequisite: 120.

229-3 Computing for Business Administration. The successful student will acquire an understanding of information systems concepts and of the use of computers to process business data through solving a variety of business related problems. Emphasis is on the computer as a management tool. Lecture three hours.

258-1 to 30 Work Experience Credit. Credit granted for job skills, management-worker relations and supervisory experience for past work experience while employed in industry, business, the professions, or service occupations. Credit will be established by departmental evaluation.

259-1 to 60 Occupational Education Credit. A designation for credit granted for past occupational educational experiences related to the student's educational objectives. Credit will be established by departmental evaluation.

291-1 Introduction to VM/CMS. A short course introduction to the terminology and procedures necessary to create and modify files in CMS. Execs, macros and IBM manual notation are included. Lecture one hour. Mandatory Pass/Fail.

292-1 Introduction to Microcomputers. A short course introduction to concepts and procedures related to using microcomputer hardware and software. Lecture one hour. Mandatory Pass/Fail.

293-1 Introduction to Spreadsheets. A short course introduction to the main features of a spreadsheet to solve a variety of problems. Lecture one hour. Mandatory Pass/Fail.

294-1 Introduction to Databases. A short course introduction to the main features of a data base to solve a variety of problems. Lecture one hour. Mandatory Pass/Fail.

350-1 to 32 Technical Career Subjects. In-depth competency and skill development and exploration of innovative techniques and procedures used in business, industry, professions, and health service occupations offered through various workshops, special short courses, and seminars. Hours and credits to be individually arranged. This course may be classified as independent study. Prerequisite: consent of instructor.

365-3 Data Applications and Interpretation. This course will give students an understanding of the basic principles and techniques involved in the statistical treatment of data, including the selection of data sources, the design of statistical studies, the analysis and synthesis of data, and the utilization of data. Students will gain experience in using data for decision making in information management fields such as Information Systems Technologies and Electronics Management through case studies and class projects. Prerequisite: University Core Curriculum mathematics requirement or consent of department.

366-3 Applications of Technical Writing. This course will increase students' competencies to write and to analyze, utilize and communicate various types of technical content in the information technology and electronics systems field. Emphasis will be placed on formal report writing, letters, memos, e-mail and instructions. Oral presentations will use computerized presentation software. Prerequisite: junior standing.

381-1 to 9 Special Topics. Intensive study of selected topics relevant to the contemporary information management systems environment. Offered as need exists and as time and interests permit. May be repeated for up to nine hours total. Prerequisite: consent of department.

419-1 to 12 Occupational Internship. Each student will be assigned to a business/industry work site by the department engaged in activities related to the student's academic program and career objectives. The student will perform duties and services as assigned by the work supervisor and internship coordinator. Reports and assignments are required to be completed by the student. Information Systems Technologies majors required to enroll for a minimum of four hours. Not for graduate credit. A grade of C or better is required.

Information Management Systems Faculty

Ashworth, Edwin Robert, Assistant Professor, *Emeritus*, Ph.D., Southern Illinois University, 1972.

Caldwell, Paul N., Associate Professor, *Emeritus*, M.S. ED., Southern Illinois University Carbondale, 1965.

Cook, F. Roger, Assistant Professor, *Emeritus*, M.S., Southern Illinois University Carbondale, 1987.

Davis, Diane, Professor, Ph.D., Southern Illinois University Carbondale, 1990.

Devenport, William R., Assistant Professor, M.S., Illinois State University, 1985.

Dotson, Michael, Assistant Professor, M.S., Southern Illinois University Carbondale, 1986.

Einig, Raymond G., Jr., Assistant Professor, M.S., St. Louis University, 1962.

Ellner, Jack R., Professor, *Emeritus*, Ph.D., New York University, 1969.

Evans, Candy Duncan, Associate Professor, Ph.D., Southern Illinois University Carbondale, 1992.

Fisher, Valerie, Assistant Professor, M.S., Southern Illinois University Carbondale, 1975.

Gonzenbach, Nancy, Professor, Ph.D., Southern Illinois University Carbondale, 1990.

Hampton, Robbye Joanna, Assistant Professor, *Emerita*, M.S., Southern Illinois University Carbondale, 1965.

Harre, Paul A., Associate Professor, Ph.D., Southern Illinois University Carbondale, 1995.

Henry, Janice Schoen, Associate Professor and *Chair*, Ph.D., Southern Illinois University Carbondale, 1987.

Hudson, Shirley A., Assistant Professor, M.S., Southern Illinois University Carbondale, 1988.

Kearney, Brian, Assistant Professor, M.S., Southern Illinois University Carbondale, 1990.

Keim, William, Visiting Professor, *Emeritus*, Ed.D., University of Southern California, 1969.

Morgan, Barbara, Assistant Professor, Ph.D., Southern Illinois University Carbondale, 1992.

Morse, H. Pauletta, Associate Professor, Ph.D., Southern Illinois University Carbondale, 1989.

Novak, Mary Ann, Associate Professor, Ph.D., Southern Illinois University Carbondale, 1987.

Rehwaladt, Susan S., Assistant Professor, Ph.D., Southern Illinois University Carbondale, 1982.

Richey, Helen E., Assistant Professor, *Emerita*, M.S., Southern Illinois University Carbondale, 1953.

Sheets, Joyce, Associate Professor, M.S., Southern Illinois University Carbondale, 1985.

Sheets, Leslie P., Associate Professor, M.S., Southern Illinois University Carbondale, 1976.

Shin, Wangshik, Associate Professor, *Emeritus*, M.S., Southern Illinois University Carbondale, 1963.

Shupe, William G., Associate Professor, M.S., Southern Illinois University Carbondale, 1977.

Stanley, Charles R., Assistant Professor, *Emeritus*, M.S., University of Houston, 1976.

Stitt, Beverly A., Associate Professor, Ph.D., Southern Illinois University Carbondale, 1980.

Tregoning, Elizabeth, Lecturer, M.S., Southern Illinois University Carbondale, 1992.

Vaughn, F. Eugene, Associate Professor, *Emeritus*, M.S. ED., Southern Illinois University Carbondale, 1961.

Wolfson, Ruth Ann, Lecturer, M.S., Southern Illinois University Carbondale, 1996.

Woolard, Linda, Assistant Professor, M.S., Southern Illinois University Carbondale, 1984.

Information Systems Technologies (Major, Courses)

Information Systems Technologies is a baccalaureate degree major designed to prepare students for careers in a wide variety of work settings that rely on end-user computerized information technologies to accomplish organizational goals at the departmental level. The curriculum recognizes that end user must have good computer application skills as well as an understanding of the principles of organizations and systems, including an awareness of technological, economic, political, social and cultural factors. Many courses require significant "hand-on" computer activities related to applications software, networking communications and computer troubleshooting and maintenance. Students may also choose five courses from an approved list to reflect their personal interests in Information Systems Technologies.

Students entering the Information Systems Technologies degree must be able to keyboard at a competency level adequate enough to complete a variety of computer related tasks and assignments (generally considered at 30 wpm or above). Significant computer resources are available to student in this program for instructional purposes and for completion of assignments. The courses are based on a nationally recognized model curriculum, *Organizational and End-User Information Systems* by the Office Systems Research Association (OSRA). Graduates of this program will meet the continuing needs of business and industry for personnel to use computer systems technologies within organizations utilizing end-user information systems. They will be able to supervise the planning and implementation of information systems in work/office environments, and deal with people, and procedures and equipment resources of companies in this country or abroad. The Capstone Option is available to qualified students entering these programs. More information about the Capstone Option can be found in Chapter 3 of the *Undergraduate Catalog*.

The Information Systems Technologies program has signed a number of "Program Articulation Agreements" with computer/word/information processing-related community college degree programs in order to facilitate the transfer of community college students to SIUC. These agreements take full advantage of the Capstone Option for admission to the Bachelor of Science in Information Systems Technologies.

The colleges with which SIUC has signed such an agreement include: Belleville Area College (IL), Shawnee Community College (IL), John A. Logan College (IL), Rend Lake College (IL), Southeastern Illinois College (IL), Kaskaskia College (IL), Lewis and Clark Community College (IL) and Vincennes College (IN). Agreements with Frontier Community College, Lincoln Trail College, Wabash Valley College, Olney Central College and other schools are pending. If you have questions about how these agreements apply to your personal situation, contact the school's program representative or contact the academic advisor in Information Systems Technologies at (618) 453-7200 or <<http://www.siu.edu/~imsasa/>>.

Bachelor of Science Degree, College of Applied Sciences and Arts

<i>University Core Curriculum Requirements</i>	41
To include Philosophy 104 or 105; two from the following: Economics 113, Psychology 102 or Sociology 108; and Economics 302i or Speech Communication 301i	
<i>Requirements for Major in Information Systems Technologies</i>	49
Information Systems Technologies 307, 334, 336, 341, 412, 414, 415, 416	25
Information Management Systems 365, 366, 419	9
Approved Major Electives (Note: Six hours must be at the 300 or 400 level) ¹	15
<i>Career Course Requirements</i>	30
Information Management Systems 120, 220	6
Information Systems Technologies 109, 140, 141, 142, 205, 208, 209, 232	21
Electronics Management 224	3
Total	120

¹ The current approved list is on file in the department office.

Information Systems Technologies Suggested Curricular Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
IST 109	3	-	IST 205	3	-
IST 140	2	-	IST 208	3	-
IST 141	-	2	IST 209	3	-
IST 142	-	2	IST 232	-	3
IMS 120, 220	3	3	ELM 224	-	3
ENGL 101, 102	3	3	ECON 113, PSYC 102 or		
UCC Health	-	2	SOC 108	-	3
UCC Math	3	-	UCC Fine Arts	3	-
SPCM 101	-	3	UCC Humanities	-	3
			PHIL 104 or 105	3	-
			UCC Science	-	3
Total	14	15	Total	15	15
THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
IST 307	3	-	IST 414	3	-
IST 334	3	-	IST 415	-	3
IST 336	3	-	IST 416	3	-
IST 341	3	-	IMS 419	-	4
IST 412	-	3	ECON 302i or SPCM 301i	3	-
IMS 365	-	3	UCC Multicultural	-	3
IMS 366	-	3	Elective	6	6
ECON 113, PSYC 102					
or SOC 108	3	-			
UCC Science	-	3			
Elective	-	3			
Total	15	15	Total	15	16

Courses (IST)

- 109-3 Introduction to Computer Concepts.** This course is designed to introduce students to basic computer concepts and vocabulary. The students will learn what computers are, what they can do, and how they impact their lives. Lab assignments will cover a variety of areas, including using files, trouble-shooting, e-mail and the Internet. Lecture two hours and lab one hour.
- 140-2 Word Processing Concepts and Applications.** This course is designed to develop a working knowledge of word processing software and hardware components and to apply these concepts to various software applications. The student will create, format, edit, store, retrieve and print different types of documents as well as apply advanced features of the software to expand basic documents. Prerequisite: ability to keyboard. Lecture and lab.
- 141-2 Spreadsheet Concepts and Applications.** This course is designed to identify concepts and terminology used with electronic spreadsheets and to identify tasks that can be accomplished with spreadsheet software. The student will be able to use the computer to create, format, edit, store, retrieve, and print worksheets, graphs, and charts. The student will also be able to identify how a macro can be used, as well as define and create macros. Lecture and lab.
- 142-2 Introduction to Database Application Software.** This course is designed to introduce the student to database management systems. Fundamentals of database management concepts will be covered using a microcomputer database application package. Topics will include table design, query, maintenance and reports. Lecture and lab.
- 199-1 to 10 Individual Study.** Provides first-year students with the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment provides access to the resources and facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Prerequisite: approval of the sponsor and department chairperson.
- 205-3 Supervision and Management of Information Systems.** This course introduces planning, organizing, implementing, evaluating and controlling organizational functions as related to supervisory positions. Lecture, class discussion and guest speakers are used to study the managerial process, the organizing process, the communication process, organizational environment, management of information systems employees including selecting, developing, supervising, motivating, appraising performance, evaluating jobs, administering salaries, managing electronic systems and supervising quality and cost control functions.
- 208-3 Applied Law for Technical Careers.** This course is designed to introduce students to fundamental legal practices and procedures. Student will be able to identify the legal and social environment of business including crimes and torts, contracts, personal property and bailments, negotiable commercial paper, debtor-creditor relations and risk management, business organizations and estates.
- 209-3 Introduction to Programming.** This course is designed to introduce students to the design and development of logical solutions to business information processing problems. Upon completion, students will be able to develop algorithms, draw flowcharts and process files and tables using an appropriate computer programming language. Lecture two hours and lab one hour. Prerequisite: 109 (may be taken concurrently) or consent of department.
- 211-3 COBOL Programming I.** This course is designed to introduce the student to COBOL Programming. Fundamentals of COBOL programming concepts will be covered using a microcomputer COBOL compiler. Topics will include: four phases of program development, four diversions of COBOL coding techniques, flowcharting, screen I/O design, batch and interactive processing, arithmetic and conditional operations, reports, control breaks, data validation and one-dimensional tables. Lecture and lab. Prerequisite: 209.
- 221-3 RPG Programming.** This course is designed to give students experience in RPG programming. The report Program Generator language will be used for a variety of business application programs. Topics will include printing reports, control break processing, file processing and table handling. Prerequisite: 209.
- 222-3 Assembler Programming.** This course is designed to introduce students to computer programming in assembler language. Students will design and code programs for variety of business information processing problems using assembler instructions, including those for calculations, input/output, branching and table processing. Prerequisite: 209 or consent of instructor.
- 232-3 Systems Analysis & Design Tools.** This course is designed to introduce participants to the principles and fundamentals of information systems design. Emphasis will be placed on the various techniques and practices used for problem definition and analysis, information gathering, project management and project presentation. Computer assisted tools will be introduced and utilized. Prerequisite: 140, 141 and 142 or equivalent.
- 233-3 Job Control Language and Utilities.** The successful student will demonstrate by examination an understanding of operating systems and should be able to code and run problems involving JCL statements and utility programs to create, edit, sort, copy, and execute files. Lecture three hours. Prerequisite: 209 or consent of department.
- 240-3 Desktop Publishing Applications.** The course is designed to introduce students to basic and advanced desktop publishing concepts and applications. The student will develop an understanding of terms related to page assembly, topography and other desktop publishing elements. The student will be able to describe basic desktop publishing design principles and apply them to the creation and production of documents including newsletters, flyers and brochures. Lecture and lab. Prerequisite: 140 or equivalent.
- 299-1 to 16 Individual Study.** Provides student with the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment provides access to the resource and facilities of

the entire institution. Each student will work under the supervision of a sponsoring faculty member and department chairperson. Prerequisite: approval of the sponsor and department chairperson.

307-3 Principles of Records Information Management. This course is designed to provide a comprehensive understanding of the field of records information management with emphasis on the application of management techniques needed to control recorded information in an organization. The student will understand all of the elements of records information management from creation through maintenance and protection to final disposition. A grade of C or better is required.

308-3 Forms Analysis, Design and Control. This course is designed to provide the student with an understanding of the concepts of forms management as applied to the procedures for implementing a program within an organization; analyzing and designing and/or redesigning business forms; and forms construction, printing technology, paper types, forms procurement, forms specifications and inventory control. Lecture and lab. Prerequisite: 307 with a grade of C or better or concurrent enrollment.

309-3 Micrographics & Image Management. This course is designed to provide the students with an understanding of the fundamental principles involved in micrographic and image technology including the technical aspects of the micrographic process, principles involved in systems design and development, and practical uses of micrographic systems particularly as they relate to the information management field. Prerequisite: 307 with a grade of C or better.

310-3 Archival Management. Upon successful completion of this course, the student will understand the archival profession as a segment of the broader field of records/information management, its institutions and collections; the methodologies and issues in the field; and the archival field's relationship to records management under the life cycle concept of comprehensive records management. Prerequisite: 307 with a grade of C or better.

312-3 COBOL Programming II. This course is designed to introduce the student to advanced COBOL programming techniques. Advanced techniques will be covered using microcomputer and mainframe COBOL compilers. Topics will include multi-dimensional tables, file processing, sorting, sequential and index processing, COPY command, subprograms and VSAM files. Lecture and lab. Prerequisite: 211.

334-3 Database Processing. This course is designed to provide students with an understanding of advanced database processing concepts and various database management systems. Topics will include data modeling, database design, database implementation using a rational database management system, database administration, and distributed processing. A grade of C or better is required. Prerequisite: 142, 232 or equivalent.

335-3 Data Communications. The successful student will demonstrate by examination an understanding of concepts and vocabulary related to designing, implementing, and maintaining communication networks. Lecture three hours. Prerequisite: 109 and 209.

336-3 Software Applications in Information Systems. This course is designed to assist students in utilizing powerful and software products to create complex business documents, financial statements, and presentations, within a graphical user interface (GUI) environment. Topics include advanced-level word processing, database and spreadsheet software applications, operating systems, multimedia presentations, network communications, and object linking and embedding (OLE). Students will learn to import items, create macros, perform net searches, scan images, and creates slide presentations. A grade of C or better is required. Prerequisite: 140, 141 and 142 or equivalent.

341-3 Information Systems and Technologies. This course provides an overview of information systems technologies including computer hardware and software, document information management and telecommunications. It focuses on systems strategies for office automation with emphasis on organizational characteristics, human resources and ergonomics in regard to the planning, design and management of information systems. A grade of C or better is required.

350-1 to 32 Technical Career Subjects. In-depth competency and skill development and exploration of innovative techniques and procedures used in business, industry, professions and health service occupations offered through various workshops, special short courses and seminars. Hours and credit to be individually arranged. This course may be classified as independent study. Prerequisite: Consent of instructor and department.

412-3 Planning, Implementing and Evaluating Information Systems. (Same as Workforce Education and Development 412.) This course examines planning for office systems development through investigation of procedures and systems used in various types of offices, including a study of work flow, the processing of information and employee and work group interactions. Topics will detail information systems from the perspective of the end users by studying development and implementation processes, tactics and strategies based upon systems planning results through a field-based product. Not for graduate credit. A grade of C or better is required. Prerequisite: 232 or equivalent and 341 with a grade of C or better.

414-3 Trends and Issues in Information Systems. This course is designed to explore special topics related to the role of information systems in the various functional areas of contemporary business, to assist the student to envision and evaluate computer-based solutions to information systems problems by studying the historical and technological developments, and to provide the student with concepts for understanding information systems in the future. Other topics include evaluative criteria for hardware and software tools, decision support and expert systems, mathematical modeling, quality management and re-engineering. Not for graduate credit. A grade of C or better is required. Prerequisite: 341 with a grade of C or better.

415-3 Cases in Information Systems Technology. This course is the capstone course in the study of information systems technology. Using case studies, this course involves the analysis, syntheses, application and evaluation of advanced concepts related to information systems technology, organizational function areas, technological training, leadership needs and strategy planning for human aspects of ...technological change.

Not for graduate credit. A grade of C or better is required. Prerequisite: 412 and 414 with a grade of C or better in both. May be enrolled concurrently in 414.

416-3 Telecommunications. This course provides a technical overview of electronic communication systems including voice, data and video communication systems. Topics of discussion will include the history and present status of the industry; hardware, software and system components of networks and other telecommunication system; and principles of analysis, design, implementation and management of telecommunication systems. Not for graduate credit. A grade of C or better is required. Prerequisite: 341 with a grade of C or better and Electronics Management 224 or equivalent.

426-3 Application Development Environments. This course is designed to allow students to develop computer applications using an object-oriented programming language. Topics will include the usage of an application development environment, subprocedures, menus, database files and graphics. Not for graduate credit. Prerequisite: 209 or consent of instructor.

Interior Design (Major, Courses)

The Interior Design program is continually responsive to the demands and standards of qualification of the profession and its related fields. A four-year curriculum is offered resulting in a Bachelor of Science degree in Interior Design. The program holds first professional degree accreditation from the Foundation of Interior Design Education Research.

Students receive a comprehensive, interdisciplinary education in preparation for design and administrative positions in the fields of residential, commercial, and contract design. The successful candidate is qualified to practice professionally in a wide range of positions with interior and architecture firms, corporations, government agencies, or independently.

The approach toward interior design education at SIUC provides a comprehensive technical emphasis as the basis for problem solving. At the core of the required course work are classes and studios which provide knowledge of design and the design process including programming, schematic design, design development, and construction documents. Support courses to complement and enhance the core consist of drawing, presentation, furniture, materials, interior design history, lighting, plumbing, acoustics, mechanical systems, and professional practice and current topics.

To support students in their educational endeavors, program facilities include a resource library complete with sample room, current manufacturers' catalogs, professional periodicals, and a computer laboratory for investigations in computer-aided drafting and design.

While facilities are provided for use, costs for supplies, individual equipment, and required field trips necessary to the successful completion of the program are borne by the student. Due to the variation in individual materials use, it is impossible to predict the exact costs for each student. A reasonable estimate of additional expenses is in the range of \$600 per academic year.

Bachelor of Science Degree, College of Applied Sciences and Arts

University Core Curriculum Requirements	41
As per University requirements for baccalaureate degrees, but must include Art and Design 101 and Mathematics 108.	
Requirements for Major in Interior Design	84
Art and Design 110, 120	6
Workforce Education and Development 345	3
Interior Design 111, 112, 121, 122, 211, 231, 232, 251, 252, 271, 272, 274, 351, 371, 372, 391, 392, 432, 451, 471, 491, 492, and 3 hours professional elective at the 300- or 400-level as approved by the adviser	75 ¹
Total	125

¹All interior design major courses require a minimum grade of C.

Interior Design Suggested Curricular Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
ID 111, 112	4	4	ID 211, ID 251	3	3
ID 121, 122	3	3	ID 231, 232	3	3
ENGL 101, 102	3	3	ID 271, 272	3	3
Core Humanities, AD 101	3	3	MATH 108, ID 274	3	3
AD 110, 120	3	3	SPCM 101	3	-
			Core Science	-	3
Total	16	16	Total	15	15
THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
ID 252	3	-	ID 432	-	3
ID 351	3	-	ID 451, 471	3	3
ID 371, 372	3	3	ID 491, 492	4	4
ID 391, 392	4	4	Elective	3	-
WED 345	3	-	Core Humanities	3	-
Core Science	-	3	Core Social Science	3	-
Core Social Science	-	3	Core Interdisciplinary	-	3
Core Human Health	-	2	Core Multicultural	-	3
Total	16	15	Total	16	16

Courses (ID)

111-4 Basic Design Studio I. Introduction to the elements and principles of design: point, line, balance, form, rhythm, and texture through the application of purposeful experiments in 2D/3D models, both traditionally created and computer generated. Lecture and studio.

112-4 Basic Design Studio II. Introduction to the elements and principles of design: scale, proportion, emphasis, light, color, and unity. Elements and principles previously learned will be used extensively. Experimentation using 2D and 3D models, both traditionally created and computer generated, will be applied to course work. Lecture and Studio. Prerequisite: 111, 121.

121-3 Basic Interior Design Drawing I. The development of drawing skills for interior spaces to include lettering, linework, geometric construction, orthographic projections, sections, axonometric drawings, shades and shadows, systems graphics, interior elevations and computer-aided design. Lecture and studio.

122-3 Basic Interior Design Drawing II. Three dimensional visualization drawing methods, both interior and exterior, with an emphasis on spacial quality. Various methods of visualization will be studied, to include both manual and computer assisted. Lecture and studio. Prerequisite: 111 and 121.

199-1 to 10 Individual Study. Provides first-year students with the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment provides access to the resources of facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Prerequisite: approval of the sponsor and department chair.

211-3 Color Theory in Design Applications. The study of color theory and application relative to the interior environment. Emphasis will be placed on human response to color, science of color/light and color/pigment, principles of color design, and implementation through design projects. Prerequisite: 111, 112, 252.

231-3 History of Interior Design and Architecture I. Summary of interiors, their furnishings and buildings from antiquity to 19th century including the socio-economic, psychological and philosophical rationales. Lecture. Prerequisite: Art and Design 101.

232-3 History of Interior Design and Architecture II. Summary of interiors, their furnishings, and buildings from the 19th Century to the present from the point-of-view of socio-economic, psychological and philosophical rationales. Lecture. Prerequisite: 231.

251-3 Presentation, Media and Technique. The use of drawing as a means to communicate concepts and ideas and the methods, materials and media used to present interior design projects. Lecture and studio. Prerequisite: 112, 122, AD 120.

252-3 Interior Design Programming I. Introduction to the design process used in interior design with an emphasis on the study of the methods for gathering data and analysis of project information for design synthesis. Lecture and studio. Prerequisite: 112 and 122 or concurrent enrollment.

271-3 Interior Construction I. Introduction and development of the construction knowledge and drafting skills needed to produce a set of architectural drawings for a single-story structure. Emphasis will be placed upon materials and methods of interior construction in addition to the preparation of working drawings. Lecture and studio. Prerequisite: 112 and 122.

272-3 Interior Construction II. The development of interior construction knowledge and drafting skills to solve interior architectural problems in new construction with an emphasis upon highrise structures. Special concern in the adherence to building, fire and handicapped accessibility codes are to be observed in the preparation of the working drawings. The use of computer-aided drafting and systems drafting will be utilized. Lecture and studio. Prerequisite: 271 and concurrent enrollment in 274.

274-3 Materials and Specifications. A study of materials and finishes applicable to the interior environment including production methods, limitations, quality control, application, and uses. Emphasis is on specification

for commercial interiors and liability issues for interior designers. Lecture. Prerequisite: concurrent enrollment in 272.

299-1 to 16 Individual Study. Provides students with opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment provides access to the resources of facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Prerequisite: approval of the sponsor and department chair.

300-1 to 3 Resources in Practice. Participation in the operation of the division resource library provides students the opportunity to become familiar with resources used in the profession. Emphasis is placed on gaining knowledge of practices necessary to competently organize and maintain a professional working resource facility. Prerequisite: consent of instructor.

319-1 to 15 Occupational Internship. Each student will be assigned to a University approved organization engaged in activities related to the student's academic program and career objectives. The student will perform duties and services as assigned by the preceptor and coordinator. Reports and assignments are required to be completed by the student. Hours and credits to be individually arranged. Mandatory Pass/Fail.

350-1 to 32 Technical Career Subjects. In-depth competency and skill development and exploration of innovative techniques and procedures used in business, industry, professions, and health service occupations offered through various workshops, special short courses, and seminars. Hours and credit to be individually arranged. This course may be classified as independent study. Prerequisite: consent of instructor.

351-3 Furniture Design. Study of furniture through evaluation of historic furnishings as well as contemporary furnishings. Issues include ergonomics, anthropometrics, quality of materials and methods of construction. Lecture. Prerequisite: 232, 272, 274, and Workforce Education and Development 335.

370-1 to 3 Special Topics in Lighting Design. A seminar course which explores current issues in the area of lighting design. Emphasis is placed upon supervised readings, discussion and creative projects directed toward individual research. Prerequisite: 371 and consent of instructor.

371-3 Lighting and Acoustical Systems. The study of lighting and acoustics as major tools in designing interior spaces through actual problem solving. Emphasis is on task, ambient and specialty lighting as well as sound control within and between spaces. Lecture. Prerequisite: Mathematics 140 or University core mathematics and Interior Design 272 or concurrent enrollment in Interior Design 272 or Architectural Studies 324.

372-3 Mechanical and Plumbing Systems. Study of interior architectural mechanical equipment as it relates to the proximate environment. Emphasis is on heating, cooling, ventilation and plumbing systems with attendant building codes. Lecture. Prerequisite: Mathematics 140 or University core mathematics and Interior Design 272 or concurrent enrollment in Interior Design 272 or Architectural Studies 324.

390-1 to 4 Special Project in Interior Design. Investigation of a project-type specialization. Includes application of design process principles with emphasis on programming and preliminary design. Studio. Prerequisite: 391 and consent of instructor.

391-4 Interior Design Studio I. Interior design of the personal environment at the individual level. Emphasis is on residential design. Lecture and studio. Prerequisite: 251, 252, 272, 274 or consent of department chair.

392-4 Interior Design Studio II. Interior design of the environment at the multi-user level when client/owner and client/user are different. Emphasis is on public access spaces, e.g., restaurants, stores, museums, professional offices, and future facilities. Lecture and studio. Prerequisite: 391.

432-3 Interior Design Seminar. Study of the current trends and topics in interior design. Not for graduate credit. Prerequisite: 351, 371, 491.

451-3 Interior Design Programming II. Preliminary stage of senior design project includes project research, data gathering, and analysis. Lecture and studio. Not for graduate credit. Prerequisite: 392.

471-3 Professional Practice. Introduction to the organization, management, and practice of Architecture and Interior Design as a business and profession. Emphasis is placed on the range of services provided, professional ethics, business management, marketing, contracts and negotiations, design cost analysis/control, and other aspects of professional practice. Lecture three hours. Not for graduate credit. Prerequisite: 392 or Architectural Studies 215 or consent of department chair.

491-4 Interior Design Studio III. Interior design of the environment at the corporate or institutional level where client/owner and client/user are significantly different. Emphasis is on design. Furniture systems, particularly in the area of office planning, are to be included. Facility types include financial institutions and institutional facilities. Lecture and studio. Not for graduate credit. Prerequisite: 351, 371 and 392 or concurrent enrollment.

492-4 Interior Design Studio IV. Completion of an interior design project of approximately 5,000 square feet as initiated in Interior Design 451. Emphasis is on design process from schematic design through completion of annotated construction document with estimate of cost. Facility types include Health Care or Recreation/Hospitality. Lecture and studio. Not for graduate credit. Prerequisite: 451 and 491.

Interior Design Faculty

(SEE APPLIED ARTS)

Journalism (School, Major, Courses)

The School of Journalism at Southern Illinois University Carbondale occupies a national leadership role in mass communication education with a comprehensive pro-

gram combining a broad knowledge of the liberal arts with a detailed understanding of the practice of journalism in modern society. After completing the University's liberal arts core, undergraduate students learn about the integral connections between the various components of today's mass media in the college-wide core courses. They then acquire the specific skills necessary to become professionals in advertising/integrated marketing communications, news-editorial or other communication fields. Students are further encouraged to develop in-depth knowledge by completing the requirements of a structured minor in a subject area outside the College. The curriculum prepares students for positions of responsibility in advertising and related marketing communications fields, news-editorial journalism or other fields in which the ability to communicate is essential. The School of Journalism also prepares students for graduate studies in mass communication, the social sciences, and the law.

The School of Journalism is accredited by the Accrediting Council on Education in Journalism and Mass Communication, the agency formally recognized by the Council on Postsecondary Accreditation and the U.S. Office of Education.

Prospective students should be aware that excellent written and oral language skills are essential for successful careers in the journalism field. With this in mind, the School of Journalism has adopted admission and retention standards that emphasize language facility and academic proficiency.

Admission Standards

To be admitted to the School of Journalism, applicants must meet the following requirements:

Beginning freshmen must meet the University's regular admission requirements, as described in Chapter 2.

Transfer students who have completed fewer than 26 semester hours must meet the requirements for beginning freshmen and have earned an overall collegiate grade point average of at least 2.00 (4.0 scale).

Transfer students who have completed more than 26 semester hours must have earned an overall collegiate grade point average of at least 2.00.

Students currently enrolled or who were previously enrolled at SIUC in another major must meet the same requirements as transfer students. If they have completed more than 26 semester hours they must have an overall grade point average of at least 2.00. Students with fewer than 26 semester hours must meet beginning freshman requirements as well as have a grade point of at least 2.00.

Grade point average is calculated for purposes of admission to the School of Journalism by using all grades earned at SIUC and other collegiate institutions. This includes repeated courses.

Retention Policies

Students majoring in journalism must meet these retention requirements to continue their enrollment in the major:

Students who have completed 26 semester hours or more must have an accumulative SIUC grade point average of 2.00 or higher.

A grade of C or better is required in all journalism and Mass Communication and Media Arts College courses taken in order to be counted toward the major or minor and to satisfy prerequisite requirements.

Students may enroll for a maximum of three times in any journalism course. Students who repeat a course in an attempt to earn the required letter grade of C or higher are limited to this three-time enrollment maximum.

Strong skills in the use of the English language are required to enter the first writing course in the School of Journalism: Journalism 302 or 310. Students may demonstrate proficiency in the use of the English language with an English ACTE subscore of 22 or higher, or by earning a grade of C or higher in English 290 or Linguistics 290

(for international students). This prerequisite must be successfully completed prior to registration for any course for which the prerequisite is required.

Students who are unable to meet these retention requirements will be placed in probationary status within the School of Journalism. These students will be given one semester to correct their deficiency prior to dismissal. Those who are dismissed from the School of Journalism but are eligible to continue in the University will be placed in Pre-Major advisement or they may request permission to enter another collegiate unit.

Other Requirements

Journalism students must demonstrate typing ability of 30 words per minute by receiving a passing grade in a typing course or on a typing examination specified by the School of Journalism before registering for Journalism 302 or 310. Those who cannot meet this requirement must enroll in a typing course and receive a grade of C or better.

Enrollment in Journalism courses may be canceled for students who do not attend the initial class session of the semester.

Fees will be assessed for supplies and materials in some courses. Students should inquire about amounts before registering.

Subject to the approval of the School's director, undergraduate students may receive as many as 9 hours of journalism credit toward their degrees for courses not taken in residence.

Prior to the junior year the student must decide upon a specialization described below or obtain approval of a faculty sponsor and the school's director for another coherent combination of courses tailored to individual interest from the general requirements of the School of Journalism.

Academic Advisement

A student planning to major or minor in Journalism should consult the school's academic adviser as early as possible in order to discuss the degree requirements for the specialization chosen. After admission to the major in journalism, the student will be expected to visit the academic adviser each semester until all major requirements have been completed. A record of progress for each student will be on file in the school.

Bachelor of Science Degree, College of Mass Communication and Media Arts

The academic requirements for the Bachelor of Science degree in journalism include (1) 30 to 36 hours in journalism and Mass Communication and Media Arts courses as approved by the School of Journalism and (2) a minimum of 28 hours in junior-senior level course work in the College of Liberal Arts, the College of Science or other areas approved by the faculty.

Students will also complete a 15-hour minor in an area approved by the School of Journalism. Students who select a minor within the College of Liberal Arts or another approved area may include those hours in their minimum of 28 junior-senior level hours.

The School of Journalism is accredited by the Accrediting Council on Education in Journalism and Mass Communication (ACEJMC). As a result, there are ACEJMC requirements that must be met. A major must complete a minimum of 90 semester hours outside of journalism and mass communication courses, with a minimum of 65 of those semester hours in liberal arts courses. The student, with the assistance of the journalism academic adviser, should exercise care in course selection to assure that these requirements are met.

While most students are best served by one of the following specializations, other programs of study in the major may be designed to meet special needs. Individualized programs might address such student interests as agricultural journal-

ism, international communication, mass media institutions, and communication research. Such a specialized program of study must be sponsored by a journalism faculty member and approved by the director. Further information on specialized programs of study is available from the academic adviser.

ADVERTISING/INTEGRATED MARKETING COMMUNICATION SPECIALIZATION

Students in the advertising/integrated marketing communications specialization learn to analyze problems in, and identify solutions for, the promotion of goods and services through integrated marketing communications. They develop skills in verbal and visual communication and presentation of IMC materials. The program prepares students to enter a wide variety of positions with marketing communications firms (including advertising, sales promotion, public relations and direct marketing agencies), in the communications media and with retail or manufacturing firms.

NEWS EDITORIAL SPECIALIZATION

As the communication revolution expands the ways in which news and information can be presented, the need increases for individuals with the ability to prepare and present news and information precisely and accurately for a variety of media. Students in the news-editorial specialization receive practical training in the theory and practice of identifying, gathering, processing, interpreting, writing and presenting news for traditional print and broadcast/cable media, and for new computer-based media. The program prepares students for professions in which the ability to communicate to mass audience is essential.

PHOTOJOURNALISM SPECIALIZATION

Students in the photojournalism specialization develop the photographic and news reporting skills necessary to communicate visually with a mass audience through contemporary media outlets - both printed and electronic. Photojournalism students receive practical training in gathering, writing, photographing, editing and presenting news and feature stories in which the essential information is photographic. The program prepares photojournalists that are fully aware of the power of photography, that are well-grounded in the legal and ethical traditions of the profession and that are practically prepared to make a significant contribution to contemporary journalism.

<i>University Core Curriculum Requirements</i>	41
<i>Mass Communication and Media Arts Core Courses</i>	6
<i>Requirements for a Major in Journalism</i>	30
Specialization Requirements	30
<i>Advertising/Integrated Marketing Communication Specialization:</i> 301, 302, 303, 304, 405, 406, 407, Speech Communication 281, plus selected approved electives to bring the total to 30 hours.	
<i>News-Editorial Specialization:</i> 310, 311, 312, 442; two of 411, 416 and a choice of 391 or 462; one of 400, 401, 405, 407, 452, plus journalism electives to bring total to 30 hours.	
<i>Photojournalism Specialization:</i> Journalism 310, 311, 313, 413, 452, Cinema and Photography 310, 320, 322, 404 and 407.	
<i>Minor</i>	15
<i>Approved Non-Journalism Electives</i>	28
Must include Marketing 304 for Advertising/Integrated Marketing Communication Specialization	
<i>Total</i>	120

Journalism Suggested Curricular Guide

FIRST YEAR			SECOND YEAR		
	FALL	SPRING		FALL	SPRING
ENGL 101, 102	3	3	UCC Science	3	3
UCC Math.....	-	3	UCC Multicultural.....	3	-
UCC Humanities	3	3	UCC Interdisciplinary	-	3
UCC Social Science.....	3	3	UCC Fine Arts	3	-
UCC Human Health.....	2	-	MCMA 202.....	3	-
SPCM 101.....	3	-	Major Course.....	3	6
MCMA 201	-	3	Liberal Arts Elective	-	3
Total.....	14	15	Total.....	15	15
THIRD YEAR			FOURTH YEAR		
	FALL	SPRING		FALL	SPRING
Journalism Courses	6	6	Journalism Courses.....	6	6
Liberal Arts Courses.....	6	6	Liberal Arts Courses.....	3-4	6-7
Minor.....	3	3	Minor.....	6	3
Total.....	15	15	Total.....	15-16	15-16

Minor

A total of 15 hours of journalism courses at the 300 level or higher, at least one of which must be a writing course (302 or 310), approved by the journalism academic advisor constitutes a minor for nonjournalism majors.

Courses (JRNL)

- 160-3 Mass Communication in Society.** Acquaints non-journalism students with the history and development of the American mass media. Examines media roles in society, potential for development, weak points, and the roles consumers can and should play regarding the media. This course may not be applied toward major or minor credit in Journalism.
- 300-3 Mass Media in Modern Society.** Develops an awareness of the pervasive nature of the mass media in our society and an understanding of how the media operate, with emphasis on contemporary social and economic problems in the media.
- 301-3 Principles of Advertising/IMC.** An introduction to integrated marketing communications elements, including advertising, direct response, sales promotion and marketing public relations, and their functions in today's communication environment. Explores research, media and message elements involved in the creation of a campaign; governmental regulations; and social and economic considerations.
- 302-3 Copywriting for Advertising/IMC.** Study of the principles and practice in the writing of copy and visual design of persuasive messages such as advertising, sales promotion, direct response, marketing public relations and others. Includes writing for print and broadcast media, across products and services and oral presentation of materials. Prerequisite: ACTE English subscore of 22 or higher or grade of C or higher in English 290 or Linguistics 290 and typing speed of at least 30 words per minute.
- 303-3 Creating Advertising/IMC Messages.** Examination of and practice in the development of persuasive message strategies and the writing and design of messages for all media advertising, direct response, sales promotion and marketing public relations, and oral presentations of IMC materials. Prerequisite: 301, 302 and ACTE English subscore of 22 or higher, or grade of C or higher in English 290 or Linguistics 290.
- 304-3 Placing Advertising/IMC Messages in the Media.** Examination of the various media systems/types available to carry advertising/IMC creative messages. Emphasis is given to both the development of advertising/IMC media objectives and strategies in the context of a media plan, as well as the steps involved in the actual negotiation of specific media vehicles. Prerequisite: ACTE English subscore of 22 or higher or minimum grade of C in English 290 or Linguistics 290 and Journalism 301 and Marketing 304.
- 305-3 Direct Response Advertising/IMC.** Overview of direct response advertising and its measurability; the media involved; and the strategic, tactical and creative approaches. Introduces topics such as database management, mailing lists, telemarketing, lead generation program, catalog marketing, sales promotion and business-to-business marketing communications. Prerequisite: 301, 302 and Marketing 304.
- 306I-3 International Media Systems.** (University Core Curriculum) An overview of the mass media systems of the world; comparison of theoretical models and actual practice. Explores differing conceptual models of the mass media and their underlying philosophies; actual operations of different press systems with specific economic, political and cultural structures including historical development and current status.
- 310-3 Writing for the Mass Media.** Study in the fundamentals of news writing, the techniques of news gathering and reporting, and the principles of editing with experience in the gathering, writing, rewriting, and editing of news copy. Prerequisite: typing speed of at least 30 words per minute and ACTE English subscore of 22 or higher or minimum grade of C in English 290 or Linguistics 290.
- 311-3 Reporting and News Writing.** Purposes and effects of different orientations to the information gathering and news writing processes; information sources, interviewing, writing, and editing practices; laboratory in reporting, writing, and editing for the news media. Prerequisite: 310 and an ACTE English subscore of 22 or higher or minimum grade of C in English 290 or Linguistics 290.

312-3 Editing and Makeup. Principles of editing are combined with graphic concepts and techniques which interrelate printing processes, photography, writing of cutlines, picture page preparation, and page makeup, copyfitting, head schedules, newspaper organization, and the work flow on the ad and editorial sides. Prerequisite: 310 or consent of instructor.

313-3 Basic Photojournalism. Includes basic camera technique, film and print processing methods, digital photo imaging methods and evaluation of pictorial communication effects. Discusses the history and ethics of the profession. Student supplies own materials. Laboratory fee. Prerequisite: consent of department. Open only to journalism majors.

315-3 Graphic Communication. History of printing and typographic development, modern reproduction processes, technological developments, selection and use of appropriate graphic images in communication, and production techniques for publications. Students are responsible for purchase of supplies.

360-3 Magazine Management and Production. The day-to-day operations of a magazine and the techniques involved in producing a magazine. A combination of lectures and workshops in which the professor will deal individually with student projects. Each student will produce an original magazine idea and bring it to, at least, the semi-comprehensive stage of development.

391-3 Feature Writing. Identification, research, and application of creative writing techniques with emphasis on newspaper articles. Analysis of reader appeal; study of feature story structure; development of style by practice in writing feature stories. Prerequisite: 311 or consent of instructor. Not open to students with credit in 462.

400-3 History of Journalism. Development of American newspapers, magazines, and radio-television with emphasis on cultural, technological, and economic backgrounds of press development. Current press structures and policies will be placed in historical perspective.

401-3 International Communication. An analysis of the development, structure, functions, and current status of media systems in other countries. Emphasis given to studying factors that facilitate or restrict the flow of intranational and international communication.

405-3 Introduction to Mass Communication Research. Overview of communication research methods including practical training in interpretation and presentation of social science data. Introduction to survey research methods, experimental design, and use of computers for analysis of data. Presentation of data in journalistic forms and social science reports. Not for graduate credit. Prerequisite: 302 or 310 or consent of instructor.

406-3 Advertising/IMC Campaigns. Conceptual synthesis and practical application of business, research, media and creative principles used in the formulation of persuasive messages. Includes the development of a complete integrated marketing communications (IMC) campaign for a specific advertiser. Includes all relevant target audience contact points (e.g., advertising, sales promotion, marketing public relations, event marketing, packaging) and both written and oral presentation of the campaign. Prerequisite: 303, 304, 405.

407-3 Social Issues and Advertising/IMC. Analysis of social issues involving advertising and integrated marketing communications (IMC); economic relationships, government and self-regulation, cultural effects, influence on media content and structure, role in democratic processes, international comparisons and the stereotyping of women, minorities and other audience segments. Prerequisite: senior standing.

411-3 Public Affairs Reporting. Covering government and other public agencies, including the city hall, courts, county offices, business, finance, agriculture, labor, and other specialized beats. Prerequisite: 311.

413-3 Advanced Photojournalism. Emphasis in-depth photojournalistic reporting. Students research, write and photograph picture stories. Course examines the ethics, history and social role of photojournalism domestically and internationally. Students work with digital imaging and are introduced to full-motion video. Students must have fully adjustable camera. Prerequisite: 313 or Cinema and Photography 320. Student supplies own materials.

416-3 Critical and Persuasive Writing. (Formerly 390) The roles and responsibilities of the editor, editorial writer, and opinion columnist with emphasis upon editorial writing and critical thinking. Editorial problems, methods, policies, style and the fundamentals of persuasion and attitude change form the basis for study. Prerequisite: 311.

442-3 The Law of Journalism. Legal limitations and privileges affecting the mass media to include the law of libel, development of obscenity law, free press and fair trial, contempt of court, right of privacy, advertising and antitrust regulations, copyright, and access to the press. Prerequisite: senior standing.

452-3 Ethics and News Media. An exploration of ethical problems confronting journalists and an evaluation of how these problems are handled by the media through a focus on current examples. The implications to the media and to society of successes and failures in meeting ethical concerns are discussed. Prerequisite: senior standing.

461-3 Specialized Publications. Functions, operations, and problems of industrial, trade, business, professional, literary, and other specialized publications. Management, personnel, and production practices. Use of research in solving problems and setting policies.

462-3 Magazine Article Writing. Principles, problems, and techniques involved in producing free-lance and staff-written magazine articles with an emphasis on determining the relationship between article content and audience market. Prerequisite: 311.

490-1 to 6 (1 to 3, 1 to 3, 1 to 3) Readings. Supervised readings on subject matter not covered in regularly scheduled courses. Undergraduates limited to maximum 3 credits per semester. Graduates limited to maximum 3 credits per semester. Prerequisite: written consent of instructor and director.

494-1 to 6 Practicum. Study, observation, and participation in publication or broadcast activities. A maximum of three credit hours may count toward the major for undergraduates. Prerequisite: consent of instructor and area head. Mandatory Pass/Fail for undergraduates.

495-1 to 12 (1 to 6, 1 to 6) Proseminar. Selected seminars investigating media problems or other subjects of topical importance to advanced journalism majors. Seminars will be offered as the need and the interest of students demand. Prerequisite: senior standing.

Journalism Faculty

Akhavan-Majid, Roya, Associate Professor, Ph.D., University of Minnesota, 1988.

Atwood, L. Erwin, Professor, *Emeritus*, Ph.D., University of Iowa, 1965.

Brown, George C., Professor, *Emeritus*, Ph.D., Southern Illinois University, 1963.

Ford, James L. C., Professor, *Emeritus*, Ph.D., University of Minnesota, 1948.

Gruny, C. Richard, Assistant Professor, *Emeritus*, J.D., University of Illinois, 1959.

Jaehnig, Walter, Associate Professor, Ph.D., University of Essex, 1974.

Johnson, Thomas J., Associate Professor, Ph.D., University of Washington, 1989.

Jugenheimer, Donald W., Professor and *Director*, Ph.D., University of Illinois, 1972.

Kelly, James D., Associate Professor, Ph.D., Indiana University, 1989.

Lawrence, Michael J., University Professor and *Associate Director*, Public Policy Institute, B.A., Knox College, 1964.

Lowry, Dennis, Professor, Ph.D., University of Iowa, 1972.

McCoy, Ralph E., Professor, *Emeritus*, Ph.D., University of Illinois, 1956.

Ramaprasad, Jyotika, Associate Professor, Ph.D., Southern Illinois University, 1985.

Rice, W. Manion, Associate Professor, *Emeritus*, Ph.D., Southern Illinois University, 1967.

Shidler, Jon A., Associate Professor, M.S., Roosevelt University, 1980.

Simon, Paul, University Professor and *Director*, Public Policy Institute.

Spellman, Robert L., Jr., Associate Professor, J.D., Cleveland State University, 1977.

Stone, Gerald C., Professor, Ph.D., Syracuse University, 1975.

Stonecipher, Harry W., Professor, *Emeritus*, Ph.D., Southern Illinois University, 1971.

Liberal Arts (College, Courses)

Courses (LAC)

100-1 Strategies for Academic Success. Intended for liberal arts students on academic probation, this course is designed to assist students in their re-entry to college. Topics will cover academic, personal and career issues as well as various resources available for students on campus. Course is limited to College of Liberal Arts students and consent of instructor.

288-1 Study Abroad Orientation. A pre-departure orientation course designed to prepare study abroad/exchange students for maximum learning during their overseas experience. Topics will include logistics, intercultural communication skills, health and safety issues, educational systems abroad and re-entry. Enrollment is restricted to consent of Study Abroad Programs.

300I-3 Social Perspectives on Environmental Issues. (University Core Curriculum) Case studies (e.g., rural village in developing nation; small town in the United States; city in developing nation) are used to learn how different societies and groups deal with their specific environmental issues, and how culture and economic factors affect their perspectives and actions.

301-2 Professional Development. This course is designed to prepare liberal arts students for the transition from the academic community into the workforce. Students will develop a personal career development strategy, learn how to conduct a job search in their chosen career field, and acquire professional development skills needed to succeed in various work environments.

303-1 to 9 (1 to 3 per semester) Interdisciplinary Studies. Offered in a variety of forms, including lectures, readings, research, or field study. Initiated by at least two faculty members from different departments. Approval by the dean is required during the semester prior to its offering. May be repeated to equal a total of nine credits.

310-3 Values in the Living World — Life, Normalcy, and the Natural. Intended for students who are interested in examining individual and social values which pertain to those professions based upon the biological sciences; e.g., medicine, nursing, zoology, forestry, etc.

311-3 Values in the Communication Arts. The aim of this course is to examine, by means of readings, films and guest lecturers, some value perspectives of contemporary American life. This will be done in terms of ethical-aesthetic ideals and actual practices to be encountered in the public's most accessible and influential media; i.e., cinema, radio, television, and journalism.

312-3 Applied Values in Society. A consideration of value problems and dilemmas faced by individuals in social science-based professions such as counseling, social welfare, administration of justice, etc. Among the

problems to be considered are agency or corporate loyalty vs. individual conscience; individual good vs. social good; and professional ethics vs. individual ethics.

388-1 to 36 Study Abroad. Provides credit toward the undergraduate degree for study at accredited foreign institutions or approved overseas programs. Final determination of credit is made on the student's completion of the work. One to eighteen hours may be earned per semester, one to nine hours may be earned for summer session. Prerequisite: one year of residence at Southern Illinois University Carbondale, good academic standing, and prior approval of the major department and the College of Liberal Arts.

Linguistics (Department, Major, Courses)

Language is both a means of social communication and a unique property of the human mind. As such, linguistics - the scientific study of language - has a broad appeal to students who are interested in the social sciences, the humanities, computer science, or the life sciences. The undergraduate program in linguistics helps students understand the diversity of human modes of communication, the social and psychological origins of language, and the processes by which languages are learned and lost. A major in linguistics thus provides students with a focused but broad-based education in the liberal arts. In addition, the way linguists think about their subject has greatly influenced the development of other disciplines such as anthropology, computer science, language teaching, philosophy, psychology, and sociology. A degree in linguistics will thus be of great value to students intending to pursue careers in those fields.

Graduates of the linguistics program who enter the work force immediately after graduating find employment in a wide variety of settings: as teachers, writers, translators, editors, civil servants, community developers, etc. Graduates who go on to advanced study find themselves well prepared for professional careers in fields such as linguistics, language teaching, educational administration, language planning, language research, speech pathology, lexicography, publishing, and the foreign service.

The major in linguistics consists of a minimum of 34 semester hours comprising a core of basic courses in general linguistics plus a variety of electives. The core of the linguistics major consists of 22 semester hours in Linguistics 104, 200, 300, 402, 405, 406, and 408. Majors are required to obtain a grade of C or better in each of these core courses. In addition, 12 semester hours of electives must be selected from other linguistics courses offered at the 400 level. Students who have received credit for 200 and 300 will not receive additional credit for 401.

Since the study of linguistics involves familiarity with languages other than one's native language, knowledge of a foreign language is a requirement for a degree in linguistics. This requirement, which also satisfies the foreign language requirement of the College of Liberal Arts, involves either one year of an uncommon or non-Western language or two years of any foreign language. International students whose native language is not English and who have successfully satisfied the requirement of the Office of Admissions and Records for English language proficiency will also have satisfied the Linguistics Department foreign language requirement by offering English as their foreign language.

Bachelor of Arts Degree, College of Liberal Arts

<i>University Core Curriculum Requirements</i>	41
<i>College of Liberal Arts Academic Requirements (See Chapter 4)</i>	14
<i>Requirements for Major in Linguistics</i>	34
Core courses: Linguistics 104, 200, 300, 402, 405, 406, and 408 each	
with a grade of C or better	22
Electives: Courses selected from 400-level linguistics courses	12
<i>Foreign Language Requirements (satisfies the College foreign language requirement)</i>	10-16

Electives	10-29
Total	120

Linguistics Suggested Curricular Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
ENGL 101 or LING 101.....	3	-	Multicultural ¹	3	-
ENGL 102 or LING 105.....	-	3	Human Health	-	2
Core Science	3	3	Interdisciplinary	3	3
Core Humanities.....	3	3	Foreign Language ²	4	4
Core Social Science	3	3	Composition Course ²	-	3
Core Fine Arts	-	3	LING 104, 200.....	6	-
Core Math.....	3	-	LING 300.....	-	3
Total.....	15	15	Total.....	16	15
THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
LING 402.....	3	-	LING 406 ³	3	-
LING 405, 408.....	-	8	Linguistic Elective.....	3	3
Linguistic Elective	3	3	Free Elective.....	9	12
SPCM 101.....	3	-			
CS 102.....	3	-			
Total.....	12	14	Total.....	15	15

¹ Linguistics 201, Language Diversity in the USA recommended
² Meets CoLA Academic requirements
³ Meets CoLA Writing-Across-the-Curriculum Requirement

Minor

The minor in linguistics (a minimum of 17 hours) draws upon the core courses of the Department of Linguistics. Students are introduced to the structure of language, the historical development of languages, and the relation of language to the rest of culture. A minor in linguistics would be of special interest to students in anthropology, computer science, English, foreign languages and literatures, mathematics, philosophy, psychology, sociology, speech communication, and communication disorders and sciences.

Course requirements for the minor in linguistics are 104, 200, and 300, plus at least three courses (9 semester hours) from among the following: 402, 404, 405, 406, 408, 415, 440, 450, 453, and 497.

Courses (LING)

- 100-3 Speaking and Listening in English as a Second Language.** Oral conversational and academic English. An elective for students who do not speak English as their first language. Classes are offered at beginning, intermediate and advanced levels. May be repeated at three different levels for a maximum of 9 credit hours. Mandatory Pass/Fail.
- 101-3 Basic English Composition for Foreign Students.** (University Core Curriculum) Instruction in the basic methods of English composition, focusing on the particular problems of non-native speakers of English. Basic English grammar, and techniques of analyzing, summarizing, outlining, documenting, synthesizing, and revising. Equivalent to University Core Curriculum English 101. Credit may be given on passing a proficiency exam. A service charge of not more than \$5 may be made.
- 104-2 Grammar in Language.** Description and explanation of the major grammatical categories and structures found in a wide variety of languages, including English. Consideration of the role of language structures in such topics as the nature, origin, acquisition, and variation of language. Course is designed to give students insight into the basic concepts of grammar and show their interrelationship, importance, and functioning in human language.
- 105-3 Intermediate English Composition for Foreign Students.** (University Core Curriculum) [IAI Course: C1 901] Instruction in academic and technical writing for students whose native language is not English. Includes practice in library research, analyzing, summarizing, business and technical writing, and writing of reports, research papers, and projects. A service charge of not more than \$5 may be made. Prerequisite: 101 or equivalent with a minimum grade of C, or pass the Linguistic 101 proficiency exam. Equivalent to University Core Curriculum English 102.
- 200-3 Introduction to the Nature of Language.** An exploration of social and psychological dimensions of language. Topics include first and second language learning, change in language, the interaction of language and culture, and the importance of language for human development and communication. A variety of the

world's languages is examined with particular emphasis on English and its role in international science, trade, technology, and government.

201-3 Language Diversity in the USA. (University Core Curriculum) An examination of different varieties of English and the growing presence of other languages in the United States. Local, regional and national perspectives are used to review current patterns of language diversity and to explore the impact of language issues on policies and practices in education, the legal system and the work place.

290-3 Advanced English Composition for Foreign Students. Designed for students whose native language is not English who need further work in English composition. Includes practice in library research, and focuses on writing research papers. A service charge of not more than \$5 may be made. Prerequisite: 105 or equivalent with a minimum grade of C; graduate students by placement test.

298-1 Multicultural Applied Experience. (Multicultural Applied Experience Course) An applied experience, service-oriented credit in American diversity involving a group different from the student's own. Difference can be manifested by age, gender, ethnicity, nationality, political affiliation, race or class. Students can sign up for the one-credit experience in the same semester they fulfill the multicultural requirement for the University Core Curriculum or coordinate the credit with a particular core course on American diversity, although neither is required. Students should consult the department for course specifications regarding grading, work requirements and supervision. Graded Pass/Fail.

300-3 Introduction to Descriptive Linguistics. An introductory survey of descriptive linguistics: assumptions, methods, goals, terminology, and data manipulation. Prerequisite: 200 or consent of instructor.

330-3 Language and Behavior. A wide-ranging examination of the implications of language study for people's view of themselves and their place in the world. Topics deal with the pervasiveness of verbal and non-verbal language in various aspects of modern society.

341-3 Introduction to Intercultural Communication. (See Speech Communication 341.)

402-3 Phonetics. Theory and practice of articulatory phonetics.

403-3 English Phonology. Study of English phonology, including phonetics, phonemics and prosodics. Prerequisite: 300 or 401, 402 or consent of department.

404-3 American Dialects. Regional variation and social stratification of American English. Phonological and syntactic differences among the major dialects of American English. Prerequisite: one previous course in linguistics.

405-4 Phonological Theories. A survey of various phonological theories from the 19th century up to the present, including theoretical issues arising therefrom and relationships among the theories. Limited data analysis within the perspectives of the different theories. Prerequisite: 300 or 401, and 402.

406-3 Introduction to Historical Linguistics. An introductory survey of historical and comparative linguistics, including terminology, assumptions and methods of investigation. Satisfies the CoLA Writing-Across-the-Curriculum requirement. Prerequisite: 405 or consent of instructor; 408 recommended.

408-4 Syntactic Theory. This course is an introduction to the major concepts and issues in generative grammar. Data from English and other languages will be examined and students will be provided with numerous opportunities to solve problems in syntax. Students will also be given an opportunity to carry out an individual project in syntax. Prerequisite: 300 or 401 or consent of instructor.

409-3 Linguistic Structure of Modern German. (Same as German 411.) The descriptive study of phonology, grammatical structure, and vocabulary of modern German with consideration of its structural differences from English and application to teaching. Appropriate for students with at least two years of German. Conducted in English.

411-3 The Linguistic Structure of Chinese. (Same as Chinese 410.) Phonology and syntax of Mandarin Chinese. Principal phonological features of major Chinese dialects. Special emphasis on the contrastive analysis between Mandarin Chinese and English. Theoretical implications of Chinese syntax for current linguistic theories. Prerequisite: one year of Chinese or Linguistics 401.

412-3 The Linguistic Structure of Japanese. (Same as Linguistics 412.) Inductive approach to the analysis of various aspects (such as phonology, morphology, syntax) of Japanese grammar with emphasis on syntactic structures within any of the current theoretical frameworks such as pragmatics, functionalism and formal linguistics. May include contrastive analysis between Japanese and English, and close examination of theories of comparative-historical linguistics of Japanese and Korean. Prerequisite: one year of Japanese or one previous course in linguistics and consent of instructor.

413-3 Linguistic Structure of French. (Same as French 411.) Study of the phonology, morphology, and syntax of modern spoken and written French, stressing interference areas for English speakers in learning French. Prerequisite: French 320a and 321 or equivalent.

414-3 Linguistic Structure of Spanish. (Same as Spanish 411.) Theory and practice in Spanish pronunciation and study of Spanish grammatical structure, in contrast to English, with application to teaching.

415-3 Sociolinguistics. History, methodology, and future prospects in the study of social dialectology, linguistic geography, multilingualism, languages in contact, pidgin and creole languages, and language planning. Prerequisite: one previous course in linguistics or consent of instructor.

425-3 Philosophy of Language. (Same as Philosophy 425.) An investigation into the way language is based on the nature of human cognitive structures, including metaphor, prototypes, frames, and various kinds of imaginative structures. Central topics include the grounding of meaning and conceptual structure in bodily experience, the role of imagination in reasoning, and the metaphorical nature of thought.

430-3 to 6 (3,3) Grammatical Structures. Detailed analysis of the structure of particular languages. May be repeated to a total of six hours credit with consent of department. Prerequisite: one previous course in linguistics or consent of instructor.

- 440-1 to 6 (1 to 3 per topic) Topics in Linguistics.** Selected topics in theoretical and applied linguistics. May be repeated to a total of six hours credit with consent of department. Prerequisite: one previous course in linguistics or consent of instructor.
- 442-3 Language Planning.** Survey of the field of language planning: definitions and typologies, language problems, language treatment, attitudes and beliefs about language, relations between language planning processes and other kinds of social and economic planning, linguistic innovations and other processes of language change, implementation of language policies. Prerequisite: 300 and 401.
- 445-4 Psycholinguistics.** (Same as Psychology 445.) A broad spectrum introduction to psycholinguistics. Topics to be covered include general methodology for the study of psycholinguistics, the nature of language, theories of human communication, language comprehension and production, first and second language acquisition, meaning and thought, natural animal communication systems and language and the brain. Prerequisite: 300 or 401, 402, 408.
- 450-3 to 6 (3,3) Language Families.** A synchronic survey of particular language families or sub-families. May be repeated to a total of six hours credit with consent of department. Prerequisite: one previous course in linguistics or consent of instructor.
- 453-4 Methods in Teaching English to Speakers of Other Languages.** Introduces the basic methods of TESOL in teaching/learning situations both in the US and abroad. Presents theoretical premises and background from the fields of general linguistics, second language acquisition, psycholinguistics, sociolinguistics, and education. Not for graduate credit. Prerequisite: 200 or consent of instructor and undergraduate status.
- 454-3 Observation and Practice in Teaching English to Speakers of Other Languages.** Focused observations of a wide variety of classes in English as a second language and in foreign languages. Some supervised teaching or tutoring. Analysis of textbooks for TESOL. Not for graduate credit. Prerequisite: 453 or consent of instructor, and undergraduate status.
- 455-3 Materials in Teaching English to Speakers of Other Languages.** A review of principles underlying the use and development of materials for TESOL. Class activities and individual projects deal with evaluation, adaptation, and design of materials. Not for graduate credit. Prerequisite: 453 or consent of instructor and undergraduate status.
- 456-3 Contrastive and Error Analysis.** Examination of the interference of other languages into the English of ESL learners on the levels of phonetics, phonology, morphology, syntax, lexicon, semantics, and orthography. Study of written and spoken errors, diagnosis of errors, and development of techniques for correction. Not for graduate credit. Prerequisite: 453 or consent of instructor.
- 497-1 to 8 Readings in Linguistics.** Directed readings in selected topics. Prerequisite: consent of instructor and undergraduate status.

Linguistics Faculty

- | | |
|---|---|
| <p>Angelis, Paul J., Associate Professor and Chair, Ph.D., Georgetown University, 1968.</p> <p>Brice, Colleen, Assistant Professor, Ph.D., Purdue University, 1998.</p> <p>Brutten, Sheila R., Associate Professor, M.A., Southern Illinois University Carbondale, 1965.</p> <p>Friedenberg, Joan, Professor, Ph.D., University of Illinois, 1979.</p> <p>Gilbert, Glenn G., Professor, Ph.D., Harvard University, 1963.</p> <p>Johnson, Ruth, Assistant Professor, Ph.D., Florida State University, 1993.</p> <p>Kim, Alan Hyun-Oak, Associate Professor, Ph.D., University of Southern California, 1985.</p> <p>Lakshmanan, Usha, Associate Professor, Ph.D., University of Michigan, 1989.</p> | <p>Nathan, Geoffrey S., Associate Professor, Ph.D., University of Hawaii, 1978.</p> <p>Nguyen, Dinh-Hoa, Professor, <i>Emeritus</i>, Ph.D., New York University, 1956.</p> <p>Parish, Charles, Professor, <i>Emeritus</i>, Ph.D., University of New Mexico, 1959.</p> <p>Perkins, Allen Kyle, Professor, Ph.D., University of Michigan at Ann Arbor, 1976.</p> <p>Redden, James E., Professor, <i>Emeritus</i>, Ph.D., Indiana University, 1965.</p> <p>Wilhelm, Kim Hughes, Assistant Professor, Ph.D., Indiana University, 1992.</p> <p>Winer, Lise S., Associate Professor, Ph.D., University of the West Indies, 1982.</p> <p>Winters, Margaret E., Professor, Ph.D., University of Pennsylvania, 1975.</p> |
|---|---|

Management (Department, Major, Courses)

The Department of Management prepares students for careers in both profit and non-profit organizations in such fields as business and industry, government, education, and health. The curriculum places emphasis on the development of knowledge and skills necessary for effective problem solving and decision making to achieve the goals of the organization and manage resources effectively.

The curriculum prepares students through a variety of disciplines and offers valuable knowledge, tools, and techniques that provide a broad exposure to the key

function of management. The courses, designed to impact technical, technological, and human resources management skills, prepare students to manage modern organizations successfully. A choice of four specializations within the management major is available to students. They are management, entrepreneurship, management information systems and operations management.

Management. Administrators make and implement decisions through and with people working together toward the achievement of common societal, organizational, and personal goals. Understanding the organizational and environmental factors that influence individuals and groups, particularly in work settings, is critical to the success of managers and other employees. By carefully selecting courses, students can satisfy the general requirements of a management major, and orient their programs of study toward career tracks in general management, production-operations, management information systems, or entrepreneurship. In each case, opportunities exist to pursue interests in administrative applications to a wider variety of organizational settings including government, health, and education, as well as small and large business.

Entrepreneurship. Entrepreneurship is the acceptance of risk in the management and direction of a venture. This specialization explores the special problems associated with the operation of an independent and often small business venture. Students may select courses relating to the special problems and techniques appropriate to the task of venture management in preparation for ownership and management roles in their own or a family business venture. By careful selection of courses from different areas of management, students can select the appropriate courses that will prepare them for their future positions in manufacturing, service, or retailing organizations. Research and consulting positions are also alternatives available to students with this specialization as well as the direction of new ventures for larger organizations.

Management Information Systems. With the onset of the information age, post-industrial organizations are increasingly rethinking their underlying organizational processes. Understanding how to manage information by effectively applying modern day information technology is recognized as one of the key antecedents to organizational effectiveness. There is a tremendous demand for individuals who can bridge the gap between the technological capabilities of modern day information technology and their application to a business context. By carefully selecting courses, students can prepare themselves for future positions related to management of information and information technology in service and manufacturing industries and the for-profit and not-for-profit sector. Students have the opportunity to seek employment opportunities with the rapidly growing consulting industry in the field as well.

Operations Management. In today's global competitive environment, organizations must efficiently manage the operations that produce goods and services so that customers are provided with products of high quality at a competitive price. As a result, companies look for individuals who can combine management skills with technological capabilities. This specialization is designed to prepare students for the CPIM certification examinations of the American Production and Inventory Control Society. At the same time, students will be well-prepared in modern operations techniques such as Total Quality Management, Business Process Reengineering, Just-in-Time and Manufacturing Resource Planning. Electives allow further study in computer-aided manufacturing and information technology.

Students majoring in other areas such as accounting, finance, or marketing can obtain a double major in management which will facilitate upward mobility in their careers.

Bachelor of Science Degree, College of Business and Administration

University Core Curriculum Requirements	41
Professional Business Core (See Chapter 4)	41
Requirements for Major in Management	21
Specializations (Choose one)	
Management.	
Required: Management 341, 345, 352, 431	
Elective: Select three from Management 385, 453, 456, 474, 483, 485.	
Entrepreneurship.	
Required: Management 350, 471, Finance 350, Marketing 350	
Electives: Select three from 341, 345, 420, 421, 485, or an approved sequence such as insurance or real estate.	
Management Information Systems.	
Required: Management 341, 345, 352, 420, 421, 456	
Electives: Also select one of the following electives: Management 385, 453, 483, 485	
Operations Management.	
Required: Management 341, 345, 352, 483, Industrial Technology 475	
Electives: Select two from Management 420, 421, 456, Industrial Technology 445	
Approved Electives	17
To include one international business course.	
Total	120

Management Suggested Curricular Guide

FIRST YEAR			SECOND YEAR		
	FALL	SPRING		FALL	SPRING
ENGL 101, 102	3	3	ACCT 220, 230.....	3	3
UCC Science	3	3	ECON 241, 240	3	3
UCC Fine Arts, PSYC 102.....	3	3	ACCT/MGMT 208	3	-
UCC Humanities	3	-	CS 200b or IMS 229	-	3
UCC Human Health.....	-	2	UCC Humanities.....	3	-
MATH 139, 140	3	4	SPCM 101, MGMT 202	3	3
			UCC Integrative Studies	-	3
Total.....	15	15	Total	15	15
THIRD YEAR			FOURTH YEAR		
	FALL	SPRING		FALL	SPRING
MGMT 304, 318.....	3	3	FIN 270 ²	3	-
Specialization ³	-	9	MGMT 481	-	3
FIN 330.....	3	-	Specialization ³	6	6
MKTG 304.....	3	-	Approved Elective ¹	6	3
UCC Integrative Studies.....	3	-	International Business	-	3
Approved Elective ¹	3	2			
BUS 302	-	1			
Total.....	15	15	Total	15	15

¹120 semester hours are required for graduation. Approved electives should be selected in consultation with academic advisor to meet this requirement.
²The combination of Finance 280 (Business Law I) and Finance 380 (Business Law II) may be substituted for Finance 270 and is highly recommended for Accounting majors.
³Major option, Major specialization or Secondary concentration.

Minor

A minor in Management consists of a minimum of 15 semester hours, including Management 304, 318, 345 and six credit hours in Management at the 300 level or above. All prerequisites for these classes must also be satisfied. An advisor within the College of Business and Administration must be consulted before selecting this field as a minor.

Courses (MGMT)

170-3 Introduction to Business. Survey of business. General knowledge of the modern business world, the composition and functions of the business organization, as well as business as a social institution. Open only to freshmen and sophomores. Does not satisfy a College of Business and Administration requirement.

202-3 Business Communications. Creating and managing written and oral administrative communications including the analysis, planning and practice of composing different types of internal and external communications in various administrative and business contexts. To successfully complete this course, a communication competency examination (additional fee required) must be passed with at least 70% accuracy prior to University course drop date. Prerequisite: English 101 and 102 or equivalent.

208-3 Business Data Analysis. Uses of business data in policy formulation are discussed. Emphasis is placed on the conversion of raw information into statistics which are useful to the decision maker. Problems stress solution to questions typically raised in businesses. Prerequisite: Mathematics 139 or equivalent.

211-3 Web Based Business Technologies. This class focuses on: (1) Implications of the Internet, the World Wide Web and Intranet for 21st century business organizations. (2) hypermedia and hypertext business applications. (3) information technologies used to design and implement web-based business applications. (4) hands-on design and development of web-based business applications.

301-3 Global 2000. Global 2000 examines a broad range of international topics, such as global competition, comparative business management, economic and technological change, investment and trade. Each year it concentrates on specific regions, such as the Pacific Rim, Europe, Eastern Europe and Russia, North America, or Africa.

304-3 Introduction to Management. Basic concepts of the administrative process are considered with emphasis on executive action to develop policy, direction and control based on traditional and behavioral science approaches to decision making. Prerequisite: junior standing.

318-3 Production-Operations Management. An introduction to the design, planning and control of manufacturing and service operations. Topical coverage includes Material Requirements Planning, Total Quality Management, Just-in-Time, and operations strategy, as well as traditional techniques for facility layout, scheduling and inventory control. Prerequisite: junior standing.

341-3 Organizational Behavior. The study of human problems in administration including the analyses of individual, group, and inter-group relations under a broad range of organizational settings. Theory and case analyses. Prerequisite: 208, 304, and junior standing or consent of department.

345-3 Computer Information Systems. Integrates topics of management and organization, information, computers and the systems approach. Emphasizes planning, design and implementation of information systems to aid management decision making. Application of computer techniques to develop, manipulate and analyze system models. Prerequisite: Computer Science 212 or Information Management Systems 229 and junior standing.

350-3 Small Business Management. Identification of small business, its importance and relationship to the United States economy and the opportunities and requirements unique to operation and management. Personal characteristics, interpersonal relationships, organizational systems, and decision-making processes are examined for their contribution to the success or failure of the firm. Prerequisite: junior standing or consent of department.

352-3 Management Science. An introduction to mathematical model building in organizations and the solution techniques commonly used to solve such models. Topical coverage includes decision theory, mathematical programming, project management, queuing models and simulation. Prerequisite: 208, 318, Mathematics 140 or equivalent and Computer Science 212 or Information Management Systems 229 or equivalent, junior standing or consent of department.

385-3 Personnel and Human Resources Management. An introduction to the development, application, and evaluation of policies, procedures, and programs for the recruitment, selection, development, and utilization of human resources in an organization. Prerequisite: 304 or equivalent, introductory statistics, and junior standing or consent of department.

420-3 Database Management. Database planning; entity-relationship diagrams; related, network, and hierarchical data models; normalization theory; query languages; distributed databases; applications development. Not for graduate credit. Prerequisite: 345.

421-3 Automated Information System Applications Development. Principles of information engineering; information strategy planning; business area analysis and design; construction; quality assurance; use of CASE technology. Not for graduate credit. Prerequisite: 420.

431-3 Organizational Design and Structures. The study of modern theories of complex organizations. Particular emphasis is placed on open-systems perspectives of administrative theory and the adaption of the organization to a changing environment. Prerequisite: 341 and junior standing or consent of department.

453-3 Advanced Quantitative Models for Systems Analysis. A continuation of 352. Mathematical model building in organizations and solution techniques commonly used to solve such models. An extension of topics in deterministic and probabilistic modeling introduced in 352. Prerequisite: 352, junior standing or consent of department.

456-3 Building Decision Support and Expert Systems. Investigation of selected systems and computer based methods for aiding management decision-making. Topics include systems analysis applications, simulation, and decision models. Not for graduate credit. Prerequisite: 345.

- 471-3 Seminar in Entrepreneurship.** Investigation of selected special or advanced topics in seminar format. Topics may include but are not limited to entrepreneurship, small business analysis, or topics related to the ownership and management of a business. Activities will include library and field research, data analysis, report writing, and active participation in seminar presentations and discussions. Designed particularly for the student who has completed the three small business courses numbered 350 and has discussed personal small business or entrepreneurial objectives with the instructor prior to registration. Prerequisite: consent of department.
- 474-3 Management's Responsibility in Society.** Analysis of the cultural, social, political, economic, and immediate environment of the organization. Particular emphasis is given to the manner in which the manager adapts to and is influenced by the environment and its conflicting demands. Prerequisite: senior standing or consent of department.
- 481-3 Administrative Policy.** Development of organizational strategies and policies within environmental and resource limitations. Emphasis upon the application and integration of basic principles from all areas of business by case problem analysis, simulation exercises, and group participation. Not for graduate credit. Prerequisite: senior standing, 304, 318, Finance 330, Marketing 304, or equivalent and must be a business (not pre-business) major.
- 483-3 Advanced Production-Operations Management.** An in-depth study of production and inventory management with a focus on preparation for the American Production and Inventory Control Society (APICS) certification examinations. Topics covered include planning for material and capacity requirements, scheduling, Theory of Constraints, Just-in-Time and Total Quality Management. Not for graduate credit. Prerequisite: 318 and junior standing or consent of department.
- 485-3 Organizational Change and Development.** Analysis of problems in personnel management with emphasis on current trends and techniques. Case problems, special reports and experiential approaches are used as a basis for examining ways of using an organizations' human resources to best advantage. Not for graduate credit. Prerequisite: 341, junior standing.
- 489-3 Seminar.** Investigation of selected special or advanced topics in seminar format. Topics may include, but are not limited to: management responsibility in society, wage and salary administration, health services administration, data processing management, current issues in management, etc. Prerequisite: consent of department and must be a business (not prebusiness) major.
- 491-1 to 6 Independent Study.** Utilizes special faculty resources to enable individually, the exploration of an advanced area of study through research by means of data analysis and/or literature search. Prerequisite: consent of department and must be a business (not prebusiness) major.
- 495-3 Internship in Management.** Supervised work experience that relates to the student's academic program and career objectives. Not repeatable for credit. Prerequisite: junior standing and consent of department and must be a business (not prebusiness) major. Mandatory Pass/Fail.

Management Faculty

- | | |
|---|---|
| <p>Bateman, David N., Professor, <i>Emeritus</i>, Ph.D., Southern Illinois University, 1970.</p> <p>Bedwell, R. Ralph, Associate Professor, <i>Emeritus</i>, Ph.D., Southern Illinois University, 1969.</p> <p>Karau, Steven J., Assistant Professor, Purdue University, 1993.</p> <p>Larson, Lars L., Associate Professor, <i>Emeritus</i>, Ph.D., University of Illinois, 1971.</p> <p>Melcher, Arlyn J., Professor and <i>Chair</i>, Ph.D., University of Chicago, 1964.</p> <p>McKinley, William, Associate Professor, Ph.D., Columbia University, 1983.</p> <p>Michalisin, Michael, Assistant Professor, Ph.D., Kent State University, 1996.</p> <p>Nelson, Reed E., Associate Professor, Ph.D., Cornell University, 1983.</p> <p>Paul, Souren, Assistant Professor, Ph.D., University of Wisconsin, Milwaukee, 1997.</p> | <p>Ramaprasad, Arkalqud, Professor, Ph.D., University of Pittsburgh, 1980.</p> <p>Sekaran, Uma, Professor, <i>Emerita</i>, Ph.D., University of California at Los Angeles, 1977.</p> <p>Stubbart, Charles I., Associate Professor, Ph.D., University of Pittsburgh, 1983.</p> <p>Tadisina, Suresh, Associate Professor, Ph.D., University of Cincinnati, 1987.</p> <p>Vicars, William M., Associate Professor, <i>Emeritus</i>, Ph.D., Southern Illinois University, 1969.</p> <p>Westberg, William C., Professor, <i>Emeritus</i>, Ph.D., Pennsylvania State University, 1948.</p> <p>White, Gregory P., Associate Professor, Ph.D., University of Cincinnati, 1976.</p> <p>Wilson, Harold K., Associate Professor, <i>Emeritus</i>, D.B.A., University of Colorado, 1972.</p> |
|---|---|

Marketing (Department, Major, Courses)

Marketing involves a system of interrelated activities used to develop, price, promote and distribute goods and services to customers, creating exchanges that satisfy individual and organizational goals. It is the marketing function that links the production of goods and services with their use. Effective marketing is essential to organizations

in their efforts to achieve a competitive advantage that can be sustained. Without this, growth and survival of the organization are threatened.

The bachelor degree program in marketing encompasses all of the key marketing functions. Graduates may take advantage of challenging and dynamic career opportunities in large and small businesses, in government, and in non-profit organizations. Careers in the field of marketing cut across many industries and involve a variety of organizations. Some of the career options open to the marketing major include industrial selling and sales management, retailing, advertising, marketing research, distribution, international marketing and marketing management.

A C or better grade is required for all marketing majors in all marketing courses taken to satisfy major requirements.

Bachelor of Science Degree, College of Business and Administration

<i>University Core Curriculum Requirements</i>	41
<i>Professional Business Core (See Chapter 4)</i>	41
<i>Requirements for Major in Marketing</i>	24
Marketing 305, 329, 363, 390, 493	15
Marketing Electives	9
<i>Approved Electives</i>	14
Must include one international business course.	
Total	120

Marketing Suggested Curricular Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
ENGL 101, 102	3	3	ACCT 220, 230	3	3
UCC Science	3	3	ECON 241, 240	3	3
UCC Fine Arts, PSYC 102	3	3	ACCT/MGMT 208	3	-
UCC Humanities	3	-	CS 200b or IMS 229	-	3
UCC Human Health	-	2	UCC Humanities	3	-
MATH 139, 140	3	4	SPCM 101, MGMT 202	3	3
			UCC Integrative Studies	-	3
Total	15	15	Total	15	15
THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
MGMT 304, 318	3	3	FIN 270 ²	3	-
MKTG 304, 305	3	3	MKTG ³	3	3
FIN 330	3	-	MGMT 481	-	3
MKTG 390	-	3	MKTG 329	3	-
MKTG Elective	-	3	MKTG 493	-	3
UCC Integrative Studies	3	-	MKTG 363	3	-
Approved Elective	3	2	International Business	-	3
BUS 302	-	1	Approved Elective ¹	3	3
Total	15	15	Total	15	15

¹120 semester hours are required for graduation. Approved electives should be selected in consultation with academic advisor to meet this requirement.

²The combination of Finance 280 (Business Law I) and Finance 380 (Business Law II) may be substituted for Finance 270 and is highly recommended for Accounting majors.

³Major option, Major specialization or Secondary concentration.

Minor

A minor in Marketing consists of a minimum of 15 semester hours, including marketing 304, 305, 363 and six credit hours in Marketing at the 300 level or above. All prerequisites for these classes must also be satisfied. Marketing 493, 495 and 499 may not be taken as part of the minor in Marketing. An advisor within the College of Business and Administration must be consulted before selecting this field as a minor. A C or better grade is required for all marketing minors in all marketing courses taken to satisfy minor requirements.

Courses (MKTG)

304-3 Marketing Management. Management of the firm's marketing function within a dynamic operating environment. Includes study of such functions as product development, promotion, channel selection, logistics, and market research. A C or better grade required in 304 before enrolling in any course for which 304 is a prerequisite. Prerequisite: junior standing or higher.

305-3 Consumer Behavior. Examines underlying psychological, sociological, and economic factors which influence consumer behavior. Studies the impact of marketing activities on society, consumerism and legislation affecting the marketplace. Prerequisite: junior standing or higher.

329-3 Marketing Channels. The methods and processes used in the distribution of consumer and industrial products and services. Emphasis is upon the ways in which certain basic distribution functions are carried out in the integrated channel system. The role of a variety of manufacturers, wholesalers and retailers as parts of this system is analyzed. Prerequisite: 304 with a grade of C or better and junior standing or higher.

336-3 International Business. Business activities of firms and social organizations are examined in an international environment. The course will examine the fundamental concepts and principles of international business. It will focus on the international environment as the international dimension of marketing, financial, accounting, managerial, and production functions. Prerequisite: 304 with a grade of C or better junior standing or higher.

350-3 Small Business Marketing. Deals with principles involved in locating market opportunities and developing growth plans for businesses requiring a relatively low initial capital investment. Taught from the point of view of the owner-manager relying heavily upon case examples of successful entrepreneurship. Not approved as elective for marketing majors. Prerequisite: junior standing or higher.

363-3 Promotional Concepts. The role of promotional activities in the firm's marketing function: advertising, personal selling, sales promotion, and publicity. The relationship of consumer behavior to the area of promotion. Prerequisite: 304 with a grade of C or better and junior standing or higher.

380-3 Professional Sales. Analysis of professional selling activities and how they fit into the firm's promotional efforts. The course examines the dynamics of selling and the different settings in which selling occurs. The course emphasizes preparing the student to make sales presentations in business settings. Prerequisite: 304 with a grade of C or better.

390-3 Marketing Research and Analysis. The basic procedures and theories appropriate to solving various types of marketing problems in the context of business organization and decision models. Prerequisite: 304 with a grade of C or better and Management 208 or equivalent and junior standing or higher and must be a business major or consent of department.

401-3 Retail Management. Designed to present the basic principles in decision areas such as location, layout, organization, personnel, merchandise control, sales promotion, advertising, etc. Retail merchandising through managerial perspective. Prerequisite: 304 with a grade of C or better and junior standing or higher.

435-3 International Marketing. Analysis of international operations. Emphasis on the factors influencing marketing to and within foreign countries and the alternative methods of operations open to international firms. Prerequisite: 304 with a grade of C or better and junior standing or higher.

438-3 Sales Management. Analysis of the management of the sales effort within the marketing system. Philosophies, concepts, and judgment criteria of the sales function in relationship to the total marketing program. Prerequisite: 304 with a grade of C or better, Management 304, junior standing or higher.

439-3 Business to Business Marketing. Analysis of decision criteria related to the marketing of business to business products. Emphasis on team marketing, team selling, formulation of marketing mix factors and the behavioral relationships in contemporary organizations. Prerequisite: 304 with a grade of C or better and junior standing or consent of department.

452-3 Physical Distribution Management. Integration of physical distribution activities of the firm into a system. Transportation and location as elements of the system. Inventories and service as constraints upon the system. Planning, operation, organization, and management of the system. Prerequisite: 304 with a grade of C or better and junior standing or higher.

463-3 Advertising Management. Advertising from the viewpoint of business management. Develops an understanding of the role of advertising under various conditions. Problems of integrating advertising strategy into the firm's total marketing program. Prerequisite: 304 with a grade of C or better and 363 and junior standing or higher.

493-3 Marketing Policies. A comprehensive and integrative view of marketing policy formulation. Marketing decisions analyzed and discussed. Prerequisite: 329, 363, and 390 (not more than one to be taken concurrently) and junior standing or higher and must be a marketing major or consent of department.

495-3 Internship in Marketing. Provides the student an opportunity to participate in an internship program coinciding with areas of interest. Not for graduate credit. Mandatory Pass/Fail. Prerequisite: 304 with a grade of C or better, 305, 363 and consent of department.

499-1 to 12 (1 to 3 per section) Marketing Insights. Provides the student an opportunity to participate in an independent study, or seminar coinciding with areas of interest. May be repeated for credit only when topics vary. Not for graduate credit. Prerequisite: junior standing or higher, and approval of the instructor and the department chair in the semester prior to enrollment; must be a marketing major or consent of department.

Marketing Faculty

Adams, Kendall A., Professor, *Emeritus*, Ph.D., Michigan State University, 1962.

Andersen, R. Clifton, Professor, *Emeritus*, D.B.A., Indiana University, 1960.

Anderson, Carol H., Associate Professor, *Emerita*, Ph.D., Texas A & M University, 1981.

Balasubramanian, Siva, Professor, Ph.D., State University of New York at Buffalo, 1986.

Bruner, Gordon C., II, Associate Professor, Ph.D., University of North Texas, 1983.

Dommermuth, William P., Professor, *Emeritus*, Ph.D., Northwestern University, 1964.

Fraedrich, John P., Associate Professor, Ph.D., Texas A & M University, 1988.

Hindersman, Charles H., Professor, *Emeritus*, D.B.A., Indiana University, 1959.

King, Maryon F., Associate Professor, Ph.D., Indiana University, 1989.

Kumar, Anand, Assistant Professor, Ph.D., Indiana University, 1996.

Lambert, Zarrel V., Professor and *Chair*, Ph.D., Pennsylvania State University, 1966.

Mathur, Lynette L., Associate Professor, Ph.D., Ohio State University, 1990.

Moore, James Ray, Assistant Professor, *Emeritus*, Ph.D., University of Illinois, 1972.

Perry, Donald L., Associate Professor, Ph.D., University of Illinois, 1966.

Summey, John H., Associate Professor, Ph.D., Arizona State University, 1974.

Mass Communication and Media Arts (College, Courses)

Courses (MCMA)

101-1 Exploring Mass Communication and Media Arts. A special course designed for freshmen, new majors and students interested in the options open to them in the College of Mass Communication and Media Arts. Taught by the chairs, directors and the dean, this course will use demonstrations, guest speakers and discussions to detail the activities and opportunities available in the College. Students will do a career analysis of the options available within their chosen area of interest. Mandatory Pass/Fail.

197-3 Learning to Learn. A college-level freshman-sophomore seminar to stress the necessity of communication skills and the development of professional attitudes and work habits.

201-3 Media in Society. Provides a critical basis for understanding the interrelationships between societal needs, communication institutions, and economic, political and cultural processes. Beginning with early communication systems, the course examines developments leading to our multimedia environment and how these developments impact our lives.

202-3 Visual Literacy. Students learn to interpret visual images, compose visual messages and evaluate the cultural impact of visual communication on contemporary society.

203-3 Critical Thinking Through Media Writing. Students will be asked to apply reasoning skills as they analyze examples of media writing. Students will also be asked to apply these reasoning skills to their own writing as they develop their ability to compose effective sentences, to construct sound arguments and to adapt their writing for different purposes and audiences. Prerequisite: successfully completing English 101 and 102, restricted to Mass Communication and Media Arts majors.

204-3 Alternative Media in a Diverse Society. (University Core Curriculum) The freedoms guaranteed in the First Amendment have resulted in a multitude of alternatives to the establishment media. These alternative media give voice to a range of communities ignored or suppressed by the dominant culture. Publications, alternative art spaces, film, radio and television messages and the groups and individuals who create them are examined. Not for graduate credit.

397-1 to 6 Special Interdisciplinary Study. Designed to offer and test new and experimental courses and series of courses within the College of Mass Communication and Media Arts. Prerequisite: consent of instructor.

410-3 Computer Background for Multimedia Production. Introduction to the basics of operating systems, word processing, Internet applications and digital media. Not for graduate credit. Offered summer semester only for students lacking basic computer backgrounds. Prerequisite: majors only or by consent of the instructor.

497-1 to 6 Special Interdisciplinary Study. Designed to offer and test new and experimental courses and series of courses within the College of Mass Communication and Media Arts. Prerequisite: consent of instructor.

499-1 to 3 Independent Study. Supervised research, project or creative work. The area of study is proposed by the student with the approval of a Mass Communication and Media Arts faculty member. Prerequisite: consent of instructor.

Mathematics (Department, Major, Courses)

Opportunities for mathematics majors have expanded greatly in recent years. Mathematics majors become actuaries, statisticians, mathematical computer scientists, applied mathematicians, operations research analysts and mathematical researchers. Mathematics is growing and changing and holds fascinating challenges for inquiring minds.

As an undergraduate mathematics major at Southern Illinois University Carbondale, you may work toward a Bachelor of Science degree in the College of Science or the College of Education, or a Bachelor of Arts degree in the College of Liberal Arts. The classes in the mathematics major curriculum are small and are taught by senior faculty members. A strong support system of college and departmental advisement is available to you at SIUC throughout the year.

A student planning for employment with a bachelor's degree should consider a minor or a second major in some field in which mathematics is applied. Many students earn a double major in mathematics and computer science. All of the bachelor degree programs in mathematics, including the Bachelor of Science degree in the College of Education, have sufficient flexibility to allow you to prepare for alternate career possibilities.

To prepare to major in mathematics at SIUC, you should have a solid high school preparation in algebra, geometry in two and three dimensions, and trigonometry, including a substantial study of functions and graphing. Students transferring to SIUC after two years at a community college should have completed the calculus sequence and, if possible, linear algebra and a course in Pascal or equivalent programming proficiency.

As a mathematics major at SIUC, you will meet with a Department of Mathematics adviser at least once each semester for planning and departmental approval of courses appropriate to your goals and interests.

A grade of C or better is required in every mathematics course used to satisfy departmental requirements.

Double majors in mathematics and related fields

Special provisions are made for students to earn a double major in mathematics and a field in which mathematics is extensively applied. The courses Math 361, 447, 449, 471, 472, and 475 carry credit in both mathematics and computer science. See Bachelor of Science Degree, College of Science for specific requirements in mathematics for students who also earn a major or minor in computer science.

For students who also have a major in engineering, physics, or chemistry, the requirements for a major in mathematics are Math 150, 221, 250, 251, 305 and five additional mathematics courses numbered above 300, including at least three courses above 400, and including two of the three areas of algebra, analysis, probability and statistics. The courses must be approved by a mathematics department adviser.

Students majoring in business and administration with a secondary concentration in mathematics may obtain a second major in mathematics. The requirements are Mathematics 150, 250, 251, 221, and five approved mathematics courses at the 300-400 level, of which at least four are at the 400-level. Recommended courses for this program are Mathematics 361, 471, 472, 483, 484, Management 352, 453, 456; Economics 315, 465; Finance 310, 331, and 341.

Option in Statistics

A student majoring in mathematics in the College of Science or the College of Liberal Arts may choose to concentrate in statistics. For this option, the 300- and 400-level course requirements are: 417; 305 or 472; one of 352, 450, 452, or 455; 380 or 480; 483; and at least two of 473, 481, 484, 485.

Bachelor of Science Degree, College of Science

University Core Curriculum Requirements	41
College of Science Academic Requirements	(6) + 14 ¹
Supportive Skills: a two-semester sequence in a foreign language, or three years of one foreign language in high school with no grade lower than C.....	8
Biological Sciences (not University Core)	(3) + 3
Physical Sciences (not University Core)	(3) + 3
Requirements for Major in Mathematics	(3) + 41 ¹
Mathematics 150, 221, 250, 251	(3) + 11
Computer Science 202 or approved substitute	3
At least one course from each of the following groups:	12
(1 group may be waived for students who have a minor in CS)	
Group A: Algebra/Discrete Mathematics/Linear Algebra: 319, 349, 419, 421, 447, 449	
Group B: Analysis: 352, 450, 452, 455	
Group C: Applied Mathematics/Numerical Analysis: 305, 361, 471, 472, 475a	
Group D: Probability/Statistics: 380, 480, 483	
Five additional courses in mathematics numbered above 299 (excluding 311, 314, 319e, 352e, 400, 411, 412, 457, 458)	15
Each student's program must include at least 5 mathematics courses at the 400 level and must be approved by a mathematics department adviser.	
Courses taken Pass/Fail will not count toward the major.	
Electives	24
Total	120

¹ Numbers in parentheses are hours which may be substituted into the University Core Curriculum.

College of Science Mathematics Suggested Curricular Guide

FIRST YEAR			SECOND YEAR		
	FALL	SPRING		FALL	SPRING
MATH 111 ¹	5	-	MATH 221, Humanities	3	3
MATH 150	-	4	MATH 250, 251	4	3
CS 202	-	3	MATH 302 or 305	-	3
ENGL 101, 102	3	3	Human Health	2	-
Fine Arts	3	-	SPCM 101	3	-
Foreign Language	4	4	PLB 200 or ZOOL 118 ²	4	-
			Biology	-	2-3
			Social Science	-	3
Total	15	14	Total	16	14-15
THIRD YEAR			FOURTH YEAR		
	FALL	SPRING		FALL	SPRING
Two 300-400-Level Math ³	6	6	Two 300-400-Level Math ³	6	6
Humanities	3	-	Multicultural	3	-
PHYS 203a, 253a ²	4	-	Interdisciplinary	-	3
PHYS 203b	-	3	Elective	6	6
Social Science	-	3			
Elective	2-3	3			
Total	15-16	15	Total	15	15

¹ Fulfills University Core Curriculum foundation skills.
² Fulfills University Core Curriculum science requirement.
³ Must be approved by a mathematics advisor.

Bachelor of Arts Degree, College of Liberal Arts

<i>University Core Curriculum Requirements</i>	41
<i>College of Liberal Arts Academic Requirements</i>	11
English Composition	3
Foreign Language	8
<i>Requirements for Major in Mathematics</i>	(3) + 41 ¹
Mathematics 150, 221, 250, 251,	(3) + 11
Computer Science 202 or approved substitute	3
At least one course from each of the following groups:	12
(One group may be waived for students who have a minor in Computer Science)	
Group A: Algebra/Discrete Mathematics/Linear Algebra: 319, 349, 419, 421, 447, 449	
Group B: Analysis: 352, 450, 452, 455	
Group C: Applied Mathematics/Numerical Analysis: 305, 361, 471, 472, 475a	
Group D: Probability/Statistics: 380, 480, 483	
Five additional courses in mathematics numbered above 299 (excluding 311, 314, 319e, 352e, 400, 411, 412, 457, 458)	15
Each student's program must include at least 5 mathematics courses at the 400 level and must be approved by a mathematics department adviser.	
Courses taken Pass/Fail will not count toward the major.	
<i>Secondary Concentration Requirements</i>	6-9
Six to nine hours approved by the Department of Mathematics in one of the following areas: engineering, computer science, physics, economics, busi- ness and administration. A minor in any department of the College of Lib- eral Arts or the College of Science may be substituted for this requirement.	
<i>Electives</i>	15-18
<i>Total</i>	120

¹Numbers in parenthesis are hours which may be substituted into the University Core Curriculum.

College of Liberal Arts Mathematics Suggested Curricular Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
MATH 111 ¹	5	-	MATH 221	3	-
MATH 150	-	4	MATH 250, 251	4	3
CS 202	-	3	MATH 302 or 305	-	3
ENGL 101, 102	3	3	Human Health	2	-
Fine Arts	-	3	SPCM 101	3	-
Humanities	3	-	Science	3	3
Social Science	3	3	Humanities	-	3
			English Composition	-	3
<i>Total</i>	14	16	<i>Total</i>	15	15
THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
Two 300-400 Level Math ²	6	6	Two 300-400 Level Math ²	6	6
Secondary Concentration	3	3	Secondary Concentration	3	-
Multicultural	3	-	300-400 Level Elective	3	8
Interdisciplinary	-	3	Additional Science w/lab	3	-
Foreign Language	4	4			
<i>Total</i>	16	15	<i>Total</i>	15	14

¹ Fulfills University Core Curriculum Foundation Skills.

² Must be approved by a mathematics advisor.

Bachelor of Science Degree, College of Education

Students in the College of Education with a major in mathematics must plan schedules of mathematics courses numbered above 199 with a mathematics adviser. Grades must be at least C in mathematics courses used to satisfy these requirements.

<i>University Core Curriculum Requirements</i>	41
To include ENGL 101, 102 and 121 or 204; SPCM 101; MATH 111 or 150; FL 101, HIST 101a, 101b, PHIL 103a or 103b; HIST 110; AD 101, HIST 201, MUS 103 or THEA 101; POLS 114; CHEM 106, GEOL 110 or PHYS 101; PLB 115, 117 or ZOOL 115; ANTH 202, HIST 202, 210 or SOC 215; HIST 304i or PHIL 308i; HED 101 or PE 101.	
<i>Requirements for Major in Mathematics</i>	39 ¹
Mathematics 150, 250, 251 or 305	(3) + 8
Mathematics 221	3
A student may take some of the above courses by proficiency examination.	
Computer Science 202 or approved substitute	3
Mathematics 311, 319, (or 419), 335, and 352 (or 452)	13
Mathematics 319e and 352e; or Mathematics 302	2-3
At least 3 additional mathematics courses numbered above 399	9
(At least one course in probability and statistics must be included in the student's program.)	
<i>Education Requirements</i>	34
Professional Education Requirements	28
See Teacher Education Program.	
Additional Courses for Teacher Certification	6
Psychology 102, Science elective-3	
<i>Electives</i>	6
<i>Total</i>	120

¹Numbers in parenthesis are hours which may be substituted into the University Core Curriculum.

Unconditional admission into the Teacher Education Program in mathematics requires a 2.5 average in Mathematics 150, 250, 251 or 305 and 221. Retention in the Teacher Education Program and approval for student teaching requires a 2.5 average in the major (excluding Mathematics 311, 314 and 400) and departmental approval.

Approval for student teaching also requires a grade of C or better in Mathematics 311 and a 2.25 average in mathematics courses numbered above 299, including a grade of C or better in at least four other mathematics courses not including Mathematics 314 or 400. Students with a minor in mathematics must also meet this requirement to student teach in mathematics.

College of Education Mathematics Suggested Curriculum Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
MATH 150, 250	4	4	MATH 305 or 251	3	-
MATH 221	-	3	MATH 302, 335.....	3	3
ENGL 101, 102.....	3	3	CS 202	-	3
POLS 114.....	3	-	Science Core ¹	3	-
Science Core ¹	3	-	Science Elective ¹	-	3
Fine Arts ¹	3	-	HIST 110.....	3	-
HED 101 or PE 101.....	-	2	ENGL 121 or 204	3	-
PSYC 102.....	-	3	Humanities Core ¹	-	3
			EDUC 311.....	-	2
			EDUC 314.....	-	2
<i>Total</i>	16	15	<i>Total</i>	15	16

THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
MATH 319, 352.....	3	3	MATH 311	4	-
MATH 483	-	4	MATH 400-Level ²	3	-
MATH 400-Level ²	3	-	EDUC 316	2	-
EDUC 308	-	3	EDUC 317	2	-
EDUC 310	2	-	EDUC 401	-	12
EDUC 315	3	-	Interdisciplinary ¹	3	-
SPCM 101.....	3	-			
Multicultural	-	3			
Elective.....	2	3			
Total.....	16	16	Total.....	14	12

¹ Consult with College of Education academic advisor for appropriate course.
² Must be approved by mathematics department advisor.

Minor

A non-teaching minor consists of Mathematics 150, or 140, or equivalent and 12 hours of mathematics credit at the 200 level or above, including at least one course at the 400 level (excluding 311, 314, 400, 411, 412, 457, and 458). Courses should be approved by a mathematics departmental adviser. Elementary and secondary education students interested in a mathematics minor should see a mathematics departmental education adviser to obtain a current list of specific requirements. A grade of C or better must be earned in all courses used to meet minor requirements.

Honors

Mathematics 395 and 495 are used for individual honors work for upper level undergraduates in mathematics.

Placement

In addition to having taken the prerequisite mathematics, new students are required to present a satisfactory placement score as a condition for registration in mathematics courses. Contact the Department of Mathematics for current information regarding placement.

Courses (MATH)

A hand-held calculator with function keys appropriate to the course is required of each student in 108, 109, 111, 114, 139, 140, 141, 150, 250, 251, 282, and 283. The student should consult the instructor of the course about appropriate calculators.

107-3 Intermediate Algebra. Properties and operations of the number system. Elementary operations with polynomials and factoring. Elementary operations with algebraic fractions. Exponents, roots, and radicals. First and second degree equations and inequalities. Functions and graphing. Systems of equations and inequalities. Exponential and logarithmic functions. This course does not satisfy the University Core Curriculum mathematics requirement and it does not count toward the 120 hours needed for graduation. Mandatory Pass/Fail.

108-3 College Algebra. The algebra of functions (polynomials, rational, exponential, logarithmic), graphing, conic sections, solving equations including systems. Credit is not given for both 108 and 111. Prerequisite: 107 or two years of college preparatory mathematics including the content of algebra I and II. Students must present satisfactory placement scores or obtain the permission of the Department of Mathematics.

108a,b,c-1,1,1 College Algebra. A sequence of three 1-credit courses. Topics include the algebra of polynomial, rational, exponential and logarithmic functions, graphing, conic sections, solving polynomial equations, systems of equations, inequalities and the binomial theorem. Students must initially enroll in all three courses and must successfully complete 108a before beginning 108b and 108b before beginning 108c. Students who do not successfully complete all three courses in the semester in which they initially enroll in 108 will receive a grade of PR for the course not completed. These students must enroll in all unsuccessfully completed courses in subsequent semesters. Credit is not given for both 108 and 111. Prerequisite: 107 or the second year of high school algebra and satisfactory placement score.

109-3 Trigonometry and Analytic Geometry. Trigonometric and inverse trigonometric functions, complex numbers, conic sections, polar coordinates. Credit is not given for both 109 and 111. Prerequisite: 108 or equivalent. Students must present satisfactory placement score or obtain the permission of the Department of Mathematics.

110-3 Non-Technical Calculus. (University Core Curriculum) The elements of differentiation and integration. The emphasis is on the concepts and the power of the calculus rather than on technique. It is intended to provide an introduction to calculus for non-technical students. Does not count towards the major in mathematics. No credit hours may be applied to fulfillment of any degree requirements if there is prior credit in Mathematics 140, 141 or 150. Prerequisite: 3 years of college preparatory mathematics including algebra I, algebra II and geometry. Students must present satisfactory placement scores or obtain the permission of the Department of Mathematics.

111-5 Precalculus. An intensive course in college algebra and trigonometry for students who plan to take Calculus I. The algebra of functions (polynomial, rational, exponential, logarithmic, trigonometric, inverse trigonometric), graphing, conic sections, solving equations including systems, complex numbers, polar coordinates. Not open to students with credit in 108 or 109. Prerequisite: three years of college preparatory mathematics, including algebra I, algebra II, and geometry. Students must present satisfactory placement scores or obtain the permission of the Department of Mathematics.

113-3 Introduction to Contemporary Mathematics. (University Core Curriculum) [IAI Course: M1 904] Elementary mathematical principles as they relate to a variety of applications in contemporary society. Exponential growth, probability, geometrical ideas and other topics. This course does not count towards the major in mathematics. Prerequisite: Mathematics 107 or 3 years of college preparatory high school mathematics including geometry and Algebra II. Students must present satisfactory placement scores or obtain the permission of the Department of Mathematics.

114-4 Algebraic and Arithmetic Systems. Whole numbers, integers, rational numbers, real numbers, numeration systems, algorithms, number theory, metric system, elementary algebra, probability. Successful completion of this course requires a passing grade on a basic skills test of minimal mathematical proficiency. Does not count towards the major in mathematics. Can not be used to satisfy the University Core Curriculum mathematics requirement. Prerequisite: Intermediate algebra or a second year of high school algebra or equivalent.

125-4 Technical Mathematics with Applications. Emphasizes the applications of algebra and trigonometry in technical fields. Topics in algebra include functions and graphs, systems of linear equations, quadratic equations, higher degree equations and variation. Topics in trigonometry include the trigonometric functions, laws of sines and cosines, complex numbers, exponential and logarithmic functions. Meets University Core Curriculum requirement in mathematics for Applied Sciences and Arts students. Prerequisite: Mathematics 107 or two years of high school algebra or equivalent.

139-3 Finite Mathematics. Set concepts and operations, combinations, permutations, elementary probability theory including Bayes formula, linear systems of equations, matrix algebra, Gauss-Jordan row reduction, introduction to linear programming. This course does not count towards the major in mathematics. Prerequisite: Mathematics 107 or two years of high school algebra. Student must present satisfactory placement scores or obtain the permission of the Department of Mathematics.

140-4 Short Course in Calculus. Techniques of differentiation, increasing and decreasing functions, curve sketching, max-min problems in business and social science; partial derivatives, LaGrange multipliers, elementary techniques of integration. Credit hours for both 140 and 141 may not be applied to fulfillment of degree requirements. No credit hours for 140 may be applied to fulfillment of degree requirements if there is prior credit in 150. This course does not count towards the major in mathematics. Prerequisite: Mathematics 107 or two years of high school algebra. Student must present satisfactory placement scores or obtain the permission of the Department of Mathematics.

141-4 Short Course in Calculus for Biological Sciences. [IAI Course: M1 900] Basic techniques of differentiation and integration. Population and organism growth problems solved by using calculus. Translation of problems in the biological sciences into mathematical problems. Credit hours for both 141 and 140 may not be applied to fulfillment of degree requirements. No credit hours for 141 may be applied to fulfillment of degree requirements if there is prior credit in 150. This course does not count towards the major in mathematics. Prerequisite: 111 or equivalent. Students must present satisfactory placement scores or obtain the permission of the department.

150-4 Calculus I. [IAI Course: M1 900, EGR 901] Treatment of the major concepts and techniques of single-variable calculus, with careful statements but few proofs. Differential and integral calculus of the elementary functions with associated analytic geometry. If there is prior credit in 140 or 141 only 2 hours credit for 150 may be applied to graduation requirements. Prerequisite: 111 or equivalent with a grade of C or better. Students must present satisfactory placement scores or obtain the permission of the department.

215-3 Discrete Structures I. (Same as Computer Science 215.) [IAI Course: M1 905] Number systems and computer arithmetic. Sets, relations, and functions. Boolean algebra with applications to computer logic design. Elementary matrix operations. Combinations, permutations, and counting techniques. Prerequisite: 108 or equivalent.

221-3 Introduction to Linear Algebra. Vector spaces, linear functions, systems of equations, dimensions, determinants, eigenvalues, quadratic forms. Prerequisite: 150 with a grade of C or better.

250-4 Calculus II. [IAI Course: M1 900, EGR 902] Develops the techniques of single-variable calculus begun in Calculus I and extends the concepts of function, limit, derivative and integral to functions of more than one variable. The treatment is intuitive, as in Calculus I. Techniques of integration, introduction to multivariate calculus, elements of infinite series. Prerequisite: 150 with a grade of C or better. Students must present satisfactory placement score or obtain the permission of the department.

251-3 Calculus III. [IAI Course: M1 900, EGR 903] Further topics in calculus. Definite integrals over solid regions, applications of partial derivatives, vectors and vector operations, derivatives of vector functions, line integrals. Green's theorem. Prerequisite: 250 with a grade of C or better.

257-1 to 12 Concurrent Work Experience. As an instructional aide, the student will do tutoring under the direction of an established teacher and under the supervision of a representative of the Department of Mathematics. Prerequisite: consent of department. Mandatory Pass/Fail.

282-3 Introduction to Statistics. [IAI Course: M1 902] Designed to introduce beginning students to basic concepts, techniques, and applications of statistics. Topics include the following: organization and display of data, measures of location and dispersion, elementary probability, statistical estimation, and parametric and nonparametric tests of hypotheses. Prerequisite: 108 or equivalent.

283-3 Introduction to Applied Statistics. [IAI Course: M1 902] This course is experiment motivated, uses real-world data, and computer analysis of data. Statistical concepts discussed are descriptive statistics, elementary probability, expectation, sampling distributions, statistical estimation and testing, confidence intervals, correlation and regression, and contingency tables. The student is given experience in writing reports of experiments. Prerequisite: 140.

302-3 Mathematical Communication and the Transition to Higher Mathematics. A course in communicating mathematical ideas with a special emphasis on reading, writing, and critiquing mathematical proofs. Topics covered include logic, proofs, set theory, relations, functions. Additional illustrative topics will be drawn from linear algebra, number theory, complex variables, and geometry. Prerequisite: Mathematics 221 and 250.

305-3 Introduction to Ordinary Differential Equations I. [IAI Course: EGR 904] Solution techniques for differential equations with emphasis on second order equations, applications to physical sciences, series solutions. Prerequisite: 250 with a grade of C or better.

306-3 Introduction to Ordinary Differential Equations II. Laplace transforms and Fourier series with applications to ordinary and partial differential equations. Systems of first order differential equations, stability. Prerequisite: 305 or consent of instructor.

311-4 Teaching of Secondary Mathematics. The nature and objectives of the secondary mathematics curriculum. Particular attention is given to the means of introducing new ideas into the high school program. For students preparing to be certified teachers of secondary mathematics. Three lectures and two laboratory hours per week. Does not count toward a mathematics major in the College of Liberal Arts or in the College of the Science. Prerequisite: 319, 319e, and 335.

314-3 Geometry for Elementary Teachers. [IAI Course: M1 903] Congruence, similarity; parallelism, perpendicularity; measurement; area, volume; ratio and proportion; constructions; proof. May not be used to satisfy requirements for a mathematics major. Prerequisite: 114 and a passing grade on a basic skills test of minimal mathematical proficiency.

319-3 Introduction to Abstract Algebra. Basic properties of groups and rings: Binary operations, groups, subgroups, permutations, cyclic groups, isomorphisms, Cayley's theorem, direct products, cosets, normal subgroups, factor groups, homomorphisms, rings, integral domains. Prerequisite: 221; plus for secondary education majors, 302 or concurrent enrollment in 319e.

319E-1 Modern Algebra as Applied to the Secondary Schools. Two hours per week. The applicability of the concepts of modern algebra, particularly the field axioms and the function concept, to the secondary curriculum. Prerequisite: concurrent enrollment in 319. Mandatory Pass/Fail.

335-3 Concepts of Geometry. Introduction to the foundations of Euclidean and non-Euclidean geometry with an emphasis on axiom systems, models, and counterexamples. Topics include metric geometry, betweenness, plane separation, congruence, absolute plane geometry, the critical function, and parallelism. Prerequisite: 221 or 250; for secondary education majors concurrent enrollment in Mathematics 302 is highly recommended.

349-3 Introduction to Discrete Mathematics. Numbers, sets, relations and functions; elementary enumeration; introduction to graph theory; logic, partially ordered sets and Boolean algebra; mathematical induction; recurrence relations. Prerequisite: 221.

352-3 Theory of Calculus. An introduction to understanding and writing proofs in mathematical analysis, through a careful study of limits, continuity, the derivative, and the integral. Prerequisite: 221, 250; plus for secondary education majors, 302 or concurrent enrollment in 352e.

352E-1 Analysis as Applied to the Secondary Schools. Two hours per week. Sequences, series, infinite decimals, continuity. Applications to the secondary curriculum. Prerequisite: concurrent enrollment in 352. Mandatory Pass/Fail.

361-3 Numerical Calculus. (Same as Computer Science 361.) Algorithms for the solution of numerical problems encountered in scientific research work with special emphasis on the use of digital computers. Includes an elementary discussion of error, polynomial interpolation, quadrature, solution of nonlinear equations and linear systems, solution of differential equations. Prerequisite: 221 and 250 and Computer Science 202 or equivalent programming proficiency.

380-3 Elements of Probability. Probability as a mathematical system. Axioms, permutations and combinations, random variables, generating functions, limit theorems, and Monte Carlo procedure. Prerequisite: 250 and Computer Science 202.

390-3 to 6 Topics in Contemporary Mathematics. Content will vary according to the instructor. The seminar will introduce students to new and developing areas of mathematics, such as Chaos, Fractals, Algorithms, Fourier Analysis, Difference Equations, etc. Prerequisite: intended for students who have completed Mathematics 150, 221, 250 and either 251 or 305. Other prerequisites may apply. May be repeated as topics vary.

395-1 to 6 Readings in Mathematics. Supervised reading in selected subjects. Prerequisite: 3.00 grade point average in mathematics and consent of chair.

400-3 History of Mathematics. An introduction to the development of major mathematics concepts. Particular attention given to the evolution of the abstract concept of space, to the evolution of abstract algebra, to the evolution of the function concept, and to the changes in the concept of rigor in mathematics from 600 B.C. Does not count toward a mathematics major in the College of Liberal Arts or in the College of Science. Prerequisite: 319 and 352 or consent of instructor.

405-3 Intermediate Ordinary Differential Equations. Topics selected from linear systems, existence and uniqueness for initial value and boundary value problems, oscillation, and stability. Prerequisite: 305.

406-3 Eigenfunction Analysis. Discrete and continuous models for the vibrating string; separation of variables and eigenfunction analysis; inner product spaces; operators on inner product spaces; the spectral theorem for Hermitian operators on finite dimensional spaces with applications; the singular value decomposition of operators on finite dimensional spaces; the Courant-Fischer max-min characterization of eigenvalues; the spectral theorem for compact Hermitian operators with applications to Sturm-Liouville boundary value problems and Fredholm integral equations. Prerequisite: 221 and 305.

407-3 Introduction to Partial Differential Equations. First order linear and quasilinear partial differential equations, characteristics, second order linear partial differential equations, classification of types, boundary value and initial value problems, well posed problems, the wave equation, domain of dependence, range of influence, Laplace's equation and Dirichlet problems, the maximum principle. Poisson's integral, fundamental solution of the heat equation. Prerequisite: 251, 305.

409-3 Introduction to Fourier Analysis. The Fourier synthesis and analysis equations for periodic and aperiodic functions on the reals and the integers; convolution; the calculus of finding Fourier transforms; operators associated with Fourier analysis; the FFT algorithm and fast convolution; generalized functions; the sampling theorem; wavelets; selected applications of Fourier analysis to partial differential equations, probability, synthesis of musical tones, diffraction, image processing. Prerequisite: 221 and 305.

411-1 to 6 (1 to 3, 1 to 3) Mathematical Topics for Teachers. Variety of short courses in mathematical ideas useful in curriculum enrichment in elementary and secondary mathematics. May be repeated as topics vary. Does not count toward a mathematics major.

412-3 Problem Solving Approaches to Basic Mathematical Skills. Content of basic skills at all levels of education and the development of these skills from elementary school through college; emphasis on problem solving and problem solving techniques; determination of student skills and proficiency level. Credit may not be applied toward degree requirements in mathematics. Prerequisite: 314 or equivalent.

417-3 Applied Matrix Theory. Matrix algebra and simple applications, simultaneous linear equations, linear dependence and independence of vectors, rank and inverses, determinants, eigenvalues and eigenvectors, quadratic forms, applications. This course may not be counted towards a graduate degree in mathematics. Prerequisite: 221.

419-3 Introduction to Abstract Algebra II. Solvable groups, maximal ideals, basis and dimension, elementary field extension theory, splitting fields, geometric constructions, elementary Galois theory, Galois group of a polynomial, solution of equations in radicals. Prerequisite: 319 or consent of instructor.

421-3 Linear Algebra. Fields, vector spaces over fields, triangular and Jordan forms of matrices, dual spaces and tensor products, bilinear forms, inner product spaces. Prerequisite: 221.

425-3 Theory of Numbers. Properties of integers, primes, divisibility, congruences, quadratic forms, diophantine equations, and other topics in number theory. Prerequisite: 319 or consent of department.

430-3 Introduction to Topology. Study of continuity, convergence, separation and compactness in the context of metric spaces and topological spaces. Prerequisite: 302 or 352 or consent of the department.

435-3 Elementary Differential Geometry. An introduction to modern differential geometry through the study of curves and surfaces in \mathbb{R}^3 . Local curve theory with emphasis on the Serret-Frenet formulas; global curve theory including Fenchel's theorem; local surface theory motivated by curve theory; global surface theory including the Gauss-Bonnet theorem. Prerequisite: 221 and 251.

447-3 Introduction to Graph Theory. (Same as Computer Science 447.) Introduction to theory of graphs, digraphs, and networks and applications to electrical systems and computer science. Topics include blocks and cut-points, Eulerian graphs, trees, cycle and cocycle spaces, planarity and Kuratowski's Theorem, connectivity and Menger's Theorem, Hamiltonian graphs, colorability and Heawood's Theorem, flows in networks and Ford-Fulkerson Theorem, critical path analysis. Prerequisite: 349 or consent of instructor.

449-3 Introduction to Combinatorics. (Same as Computer Science 449.) An introduction to combinatorial mathematics with computing applications. Topics include selections and arrangements, generating functions, recursion, inclusion and exclusion, coding theory, block designs. Prerequisite: 349 or consent of instructor.

450-3 Methods of Advanced Calculus. Sequences and series of functions; partial differentiation; Jacobians; the implicit function theorem; the classical differential operators in general curvilinear coordinates; line, surface, and volume integrals, the divergence and Stokes' theorems; transformation of variables in multiple integrals; integrals containing a parameter. Prerequisite: 251.

452-3 Introduction to Analysis. A rigorous development of one-variable calculus concepts including the real numbers, sets, limits of sequences, continuity of functions, differentiation, Riemann-Stieltjes integration, series of functions at a more advanced level than 352. Prerequisite: 251.

455-3 Introduction to Complex Analysis and Applications. Complex numbers, analytic functions, line integrals, the Cauchy-Goursat theorem and its implications, power series. Laurent series, polar and essential singularities, analytic continuation, contour integration, residue theorem, conformal mapping. Prerequisite: 251.

458-3 Statistical Methods in Business and Industry. Basic probability concepts; random variables; univariate and joint distributions; Bernoulli, binomial, Poisson, normal, exponential, gamma, chi-square, t and F distribu-

- tions; sampling distributions; estimation by the method of moments and the method of maximum likelihood; confidence intervals; hypothesis tests for normal, Bernoulli and Poisson distributions; simple regressions and analysis of variance problems. Prerequisite: 140 or equivalent and graduate standing in College of Business and Administration or the College of Engineering and Technology.
- 460-3 Transformation Geometry.** Geometry as the study of properties invariant under congruences, similarities, affine transformations, and projectivities. Prerequisite: 221 and 319.
- 471-3 Introduction to Optimization Techniques.** (Same as Computer Science 471.) Nature of optimization problems. General and special purpose methods of optimization, such as linear programming, classical optimization, separable programming, integer programming, and dynamic programming. Prerequisite: 221, 250. Computer Science 202.
- 472-3 Linear Programming.** (Same as Computer Science 472.) Nature and purpose of the linear programming model. Development of the simplex method. Application of the model to various problems. Duality theory. Transportation. Assignment problems. Postoptimality analysis. Prerequisite: 221 and Computer Science 202.
- 473-3 Reliability Theory.** Formulation of the concept of reliability in terms of probability theory. Failure distributions and failure rates. Elements of renewal theory. Age and block replacement policies, optimal replacement policies, optimal replacement policies for classes of failure distributions. Prerequisite: 480 or 483, or consent of department.
- 475-6 (3,3) Numerical Analysis.** (Same as Computer Science 464.) An introduction to the theory and practice of computation with digital computers. Topics include the solution of nonlinear equations, interpolation and approximation, solution of systems of linear equations, numerical integration, solution of ordinary differential equations, computation of eigenvalues and eigenvectors and solution of partial differential equations. Prerequisite: (a) 221 and 250 and Computer Science 202 or equivalent programming proficiency; (b) 305 and 475a.
- 480-4 Introduction to Probability.** A comprehensive introduction to probability theory at a level suited to upper-division undergraduates and first-year graduate students. Topics include: event spaces, probability functions, combinatorics, generating functions, conditional probability, independence, random variables, probability distributions, expectations, moments, characteristic functions, inversion formulas, sums of independent random variables, the multivariate normal distributions, the central limit theorem, the weak and strong laws of large numbers. Prerequisite: 251.
- 481-3 Elements of Stochastic Processes.** An introduction, including normal, Poisson, and Markov processes. Prerequisite: 380 or 480.
- 483-4 Mathematical Statistics in Engineering and Physical Sciences I.** Introduction to statistical theory with applications in engineering and the physical sciences. Probability: axioms, distributions including noncentral distributions, moments and moment generating functions, order statistics. Statistical inference: point and interval estimation, testing hypotheses, likelihood ratio tests. Prerequisite: 250.
- 484-4 Mathematical Statistics in Engineering and Physical Sciences II.** An introduction to linear models and the design of experiments with applications in engineering and the physical sciences. Analysis of the general linear model, basic designs and criteria, response surface analysis and factor analysis. Statistical computation. Prerequisite: 483 and 221, or consent of instructor.
- 485-3 Applied Statistical Analysis.** Elements of survey sampling including simple random and stratified sampling, ratio and regression estimates; elements of nonparametric methods including the sign, Wilcoxon and Kruskal-Wallis tests; analysis of categorical data including loglinear models. Prerequisite: 480 or 483 or consent of instructor.
- 495-1 to 6 Special Topics in Mathematics.** Individual study or small group discussions in special areas of interest under the direction of a member of the faculty. Prerequisite: consent of chair and instructor.

Mathematics Faculty

- Beckemeyer, Imogene C.,** Assistant Professor, *Emerita*, M.A., Southern Illinois University, 1952.
- Bhattacharya, Bhaskar,** Associate Professor, Ph.D., University of Iowa, 1998.
- Budzban, Gregory,** Associate Professor, Ph.D., University of South Florida, 1991.
- Burton, T. A.,** Professor, Ph.D., Washington State University, 1964.
- Chen, Pei-Li,** Associate Professor, Ph.D., State University of New York at Buffalo, 1988.
- Clark, Lane,** Associate Professor, Ph.D., University of New Mexico, 1980.
- Crenshaw, James,** Associate Professor, *Emeritus*, Ph.D., University of Illinois, 1967.
- Danhof, Kenneth,** Professor, Ph.D., Purdue University, 1969.
- Dharmadhikari, Sudhakar,** Professor, Ph.D., University of California at Berkeley, 1962.
- Earnest, Andrew,** Professor and *Chair*, Ph.D., Ohio State University, 1975.
- Elston, George,** Assistant Professor, *Emeritus*, M.S., University of Wisconsin, 1949.
- Feinsilver, Philip,** Professor, Ph.D., New York University (Courant), 1975.
- Fitzgerald, Robert W.,** Professor, Ph.D., University of California at Los Angeles, 1980.
- Foland, Neal E.,** Professor, *Emeritus*, Ph.D., University of Missouri, 1961.
- Gates, Leslie D.,** Associate Professor, *Emeritus*, Ph.D., Iowa State University, 1952.
- Gregory, John,** Professor, Ph.D., University of California at Los Angeles, 1969.
- Grimmer, Ronald C.,** Professor, Ph.D., University of Iowa, 1967.
- Hall, Dilla,** Associate Professor, *Emeritus*, Ph.D., St. Louis University, 1955.

Hooker, John W., Professor, *Emeritus*, Ph.D., University of Oklahoma, 1967.

Hughes, Harry R., Associate Professor, Ph.D., Northwestern University, 1988.

Hunsaker, Worthen N., Professor, Ph.D., Washington State University, 1966.

Jeyaratnam, Sakthivel, Professor, Ph.D., Colorado State University, 1978.

Kammler, David, Professor, Ph.D., University of Michigan, 1971.

Kim, Henry, Assistant Professor, Ph.D., University of Chicago, 1992.

Kirk, Ronald B., Professor, Ph.D., California Institute of Technology, 1968.

Koch, Charles, Assistant Professor, *Emeritus*, Ph.D., University of Illinois, 1961.

Langenhop, Carl E., Professor, *Emeritus*, Ph.D., Iowa State University, 1948.

Lei, Junjiang, Associate Professor, Ph.D., University of Oregon, 1991.

Mark, Abraham M., Professor, *Emeritus*, Ph.D., Cornell University, 1947.

Maxwell, Charles, Professor, *Emeritus*, Ph.D., University of Illinois, 1955.

Mohammed, Salah-Eldin A., Professor, Ph.D., University of Warwick (England), 1976.

Moore, Robert A., Associate Professor, *Emeritus*, Ph.D., Indiana University, 1961.

Neuman, Edward G., Professor, Ph.D., University of Wroclaw (Poland), 1972.

Paine, Thomas B., Assistant Professor, *Emeritus*, Ph.D., University of Oregon at Eugene, 1966.

Panchapakesan, S., Professor, *Emeritus*, Ph.D., Purdue University, 1969.

Parker, George D., Associate Professor, Ph.D., University of California at San Diego, 1971.

Patula, William T., Professor, Ph.D., Carnegie-Mellon University, 1971.

Pedersen, Franklin D., Associate Professor, *Emeritus*, Ph.D., Tulane University, 1967.

Pericak-Spector, Kathleen, Associate Professor, Ph.D., Carnegie-Mellon University, 1980.

Porter, Thomas D., Associate Professor, Ph.D., University of New Mexico, 1990.

Redmond, Donald, Associate Professor, Ph.D., University of Illinois, 1976.

Slechticky, James L., Instructor, *Emeritus*, M.S. Washington University, 1940.

Snyder, Herbert H., Professor, *Emeritus*, Ph.D., Lehigh University, 1965, Ph.D., University of South Africa, 1971.

Spector, Scott J., Professor, Ph.D., Carnegie-Mellon University, 1978.

Sullivan, Michael, Assistant Professor, Ph.D., University of Texas at Austin, 1992.

Wallis, Walter, Professor, Ph.D., University of Sydney, 1968.

Wilson, Joseph C., Professor, *Emeritus*, Ph.D., Louisiana State University, 1954.

Wright, Mary H., Professor, Ph.D., McGill University (Montreal), 1977.

Yucas, Joseph, Professor, Ph.D., Pennsylvania State University, 1978.

Zeman, Marvin, Professor, Ph.D., New York University (Courant Institute), 1974.

Mechanical Engineering and Energy Processes

(Department, Major [Mechanical Engineering], Courses)

The Department of Mechanical Engineering and Energy Processes offers the Mechanical Engineering major which is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology.

MECHANICAL ENGINEERING

Mechanical engineering is one of the broadest fields of engineering. Mechanical engineers learn measurement and instrumentation, computer-aided design, computer simulation, computer control, combustion and engine analysis. They learn to design thermal systems for mechanical and electrical equipment including heating, ventilating, air conditioning and refrigeration. Students learn how to design and produce new materials for advanced engineering applications. Courses are also offered in subjects related to the chemical processes and environmental control industries. Graduates are highly sought after in a variety of industries such as automotive, aerospace and manufacturing.

Bachelor of Science Degree, College of Engineering

University Core Curriculum Requirements	41
Foundations	12
English 101, 102, Speech Communication 101 and substitute Mathematics	

Disciplinary Studies	23
Fine Arts	3
Human Health	2
Humanities	6 ²
Social Science	6 ²
Science (substitute Physics and Chemistry)	6
Integrative Studies	6
Multicultural	3
Interdisciplinary	3 ²
Requirements for Major in Mechanical Engineering	(9) + 85 ¹
Basic Sciences	(6) + 9
Chemistry 200, 201, 210	
Physics 205a,b, 255a,b	
Mathematics Analysis	(3) + 14
Mathematics 150, 250, 251, 305	(3) + 11
Engineering 351	3
Mechanical Engineering	62
General: Engineering 102, 222a, 400, and Mechanical Engineering 101 and 361	8
Engineering Sciences	28
Engineering 260a, 300, 311, 312, 313 and 335; Mechanical Engineering 261, 302, 309 and either 301 or 400	
Mechanical Engineering 411, 436, 475, 495a,b	12
Engineering Laboratory	3
Mechanical Engineering 401, 403 and 437	
Elective Engineering Design Courses	11 ³
Total	126

¹Courses in parenthesis will also apply toward 9 hours of University Core Curriculum, making a total of 41 in that area.
²See department guidelines for courses that form a required sequence.
³See department guidelines for appropriate electives.

Mechanical Engineering and Energy Processes Curricular Guide

FIRST YEAR		FALL	SPRING	SECOND YEAR		FALL	SPRING
Core Human Health ¹	-		2	Core Humanities ¹	-		3
CHEM 200, 201	4		-	Core Social Science ¹	3		-
CHEM 210	-		3	ENGR 222a	2		-
ENGL 101, 102	3		3	ENGR 260a, ENGR 311	2		3
ENGR 102	2		-	MATH 251, 305	3		3
MATH 150, 250	4		4	ME 261	-		3
ME 101	2		-	ME 361	-		1
PHYS 205a, 255a	-		4	PHYS 205b, 255b	4		-
				SPCM 101	3		-
				ENGR 300	-		3
Total	15		16	Total	17		16
THIRD YEAR		FALL	SPRING	FOURTH YEAR		FALL	SPRING
Core Fine Arts ¹	-		3	Core Humanities ¹	3		-
Core Social Science ¹	3		-	Core Integrative Studies ¹	3		3
ME 302	-		3	ENGR 400	-		1
ENGR 312	3		-	ME 401	1		-
ENGR 313	3		-	ME 411	-		2
ENGR 335	3		-	ME 436	3		-
ENGR 351	3		-	ME 437	-		1
ME 309	2		-	ME 475	3		-
ME 301 or 400	-		3	ME 495a,b	1		3
ME 403	-		1	ME Design Elective	3		2
ME Design Elective	-		6				
Total	17		16	Total	17		12

¹ See University Core Curriculum.

Mechanical Engineering (ME)

Safety glasses, an electronic calculator, and textbooks are required of all mechanical engineering students.

101-2 Introduction to Mechanical Engineering. Introduction to engineering fields and to mechanical engineering. Activities which provide the student with tools for greater academic success, professional awareness teamwork and engineering success are explored. Introduction to design principles and creativity in class projects. Prerequisite: enrollment in mechanical engineering, Mathematics 111 or equivalent, working knowledge of word processing and spreadsheet is highly desirable.

261-3 Mechanical Engineering Dynamics. Fundamentals of particle and rigid body dynamics. Kinematics and kinetics of a single particle and system of particles. Application of Newton's laws and energy and moment principles in solving problems involving particles or rigid bodies in planar motion. Introduction to kinetics of rigid bodies in three dimensions. Prerequisite: Engineering 260a.

301-3 Engineering Thermodynamics II. Combined first and second law analysis; availability and reversibility. Third Law. General thermodynamic relations. Reactive systems. Thermodynamic equilibrium. Phase Rule. Applications. Thermodynamics of one dimensional fluid flow. Prerequisite: Engineering 300.

302-3 Engineering Heat Transfer. Fundamentals of heat transfer by conduction, convection and radiation. Applications of theory to engineering systems. Prerequisite: Engineering 300, 313 and Mathematics 305.

309-2 Mechanical Analysis and Design. Kinematics and kinetics of inter-connected bodies. Principles of kinematics and force analyses of planar machinery. Analytical and numerical techniques for finding displacement, velocity and acceleration. Design of linkage, cam-follower mechanisms and gear trains. Prerequisite: 261 and Engineering 222a.

361-1 Engineering Economics. Present, future and annual worth, rate of return and incremental rate of return methods of comparing alternative engineering projects and designs; bonds, depreciation and tax considerations. Application of basic statistical concepts and spreadsheets for problem solutions. Professional engineering examinations include these course materials. Prerequisite: 101 or equivalent; Mathematics 111 or equivalent.

392-1 to 6 Mechanical Engineering Cooperative Education. Supervised work experience in industry, government or professional organization. Students work with on-site supervisor and faculty advisor. Reports are required from the student and the employer. Hours do not count toward degree requirements. Mandatory Pass/Fail. Prerequisite: sophomore standing.

393-1 to 12 Internship in Mechanical Engineering. Credit for documented work experience as an intern in an engineering occupation or an engineering-related occupation. Work assignments must have been professional service in the mechanical engineering field. Hours do not count toward degree requirements. Mandatory Pass/Fail. Prerequisite: satisfactory completion of twelve hours of Engineering and/or Mechanical Engineering courses.

400-3 Power and Refrigeration Cycles. Use of engineering thermodynamics in analysis of power and refrigeration cycles. Detailed treatment of various gas and vapor power cycles including combined gas and steam cycles. Thermodynamics of combustion. Gas and vapor refrigeration cycles. First and Second Law analysis and turbo-machinery. Prerequisite: Engineering 300.

401-1 Thermal Measurements Laboratory. Study of basic measurements used in the thermal sciences. Calibration techniques for temperature and pressure sensors. Thermal measurements under transient and steady-state conditions. Applications include conduction, convection and radiation experiments. Uncertainty analysis. The handling and reduction of data. Prerequisite: 302.

402-3 Heat Exchange Equipment Design. Engineering design of heat exchange equipment such as boilers, evaporators, cooling towers, furnaces and systems involving combinations of conduction, convection and radiation mechanisms. Emphasis is placed on application of basic principles of heat transfer and fluid mechanics to the design of heat exchange equipment. Students are encouraged to work open-ended problems with multiple possible solutions. Prerequisite: 302.

403-1 Mechanical Engineering Measurements Laboratory. Laboratory to familiarize students with the use of instruments to measure time, distance, velocity, acceleration, strain, fluid flow and turbulence. Instruments include micrometers, laser distance meters, stroboscopes, oscilloscopes, incremental rotary encoder, LVDT, load cells, accelerometers, analog/digital convertors, pressure transducers, and related equipment. Prerequisite: Engineering 311.

404-4 Optimization of Process Systems. Simulation and optimization of process systems based upon engineering science and economic fundamentals. Analysis and correlation of experimental engineering data and use of correlated data in simulation, design and decision making. Design of systems using economics and continuous and discrete optimization methods encountered in engineering practice. Use of the computer is required. Prerequisite: 361 or Engineering 361, Mathematics 305 and senior standing in engineering.

405-3 Internal Combustion Engines and Gas Turbines. Operation and performance characteristics of Otto, Diesel, Wankel engines and gas turbines. Methods of engine testing, types of fuels and their characteristics, fuel metering systems, engine combustion analysis as related to engine performance, fuel characteristics and air pollution, exhaust gas analysis, and air pollution control. Prerequisite: Engineering 300.

406-3 Thermal Systems Design. Applications of the principles of engineering analysis to the design of thermal systems. Consideration of such systems as refrigeration, air conditioning, spacecraft thermal control and cogeneration. Numerical analysis and solution of an open-minded design problem. Prerequisite: 302, Engineering 351.

408-3 Energy Conversion Systems. Principles of advanced energy conversion systems; nuclear power plants, combined cycles, magnetohydropromagnetics, cogeneration (electricity and process steam), and heat pumps. Constraints on design and use of energy conversion systems; energy resources, environmental effects, and economics. Prerequisite: 301 or 400.

410-3 Applied Chemical Thermodynamics and Kinetics. Designed for students interested in chemical and environmental processes and materials science. Topics covered include applications of the Second and Third Laws of Thermodynamics, solution theory, phase equilibria, sources and uses of thermodynamic data, classical reaction rate theory, kinetic mechanisms and the determination of rate-determining steps in chemical reactions. Prerequisite: Chemistry 200, 201, Engineering 300 or consent of instructor.

411-2 Manufacturing Methods for Engineering Materials. Overview of manufacturing processes with emphasis on the fabrication of materials from the processing and equipment viewpoint. This course presents a broad study of the many manufacturing processes utilized in the production of a wide variety of products and components. Insight into the multitude of processing factors which influence the practical design of manufactured parts to achieve the advantages of maximum economy, accuracy and automation in everyday production. Not for graduate credit. Prerequisite: Engineering 311 and 312.

414-3 Noise and Vibration Control. Principles of engineering acoustics and vibration and their application to noise and vibration control techniques. Laboratory experience demonstrates techniques for control and reduction of vibration and noise. Prerequisite: 436 and consent of instructor.

416-3 Air Pollution Control. Engineering control theory, procedure, equipment, and economics related to control of particulate, gaseous, and toxic air emissions. The environmental impacts due both to controlling and not controlling emissions are considered. Understanding of the basics is evaluated as students design control equipment, specify and troubleshoot control systems and predict the impacts for each major type of control system. Prerequisite: Senior standing.

418-1 Air Quality Laboratory. This laboratory consists of design, construction, and use of systems to measure and analyze ambient atmospheric pollution. Safety glasses required. Prerequisite: concurrent enrollment in 416.

419-3 Hazardous Waste Incineration. Incineration techniques, procedures and systems are presented for solid waste disposal and for remedial site clean-up activities. This includes regulations, waste handling, emission controls and residue disposal. Thermodynamics, chemistry and equipment are discussed, including heat recovery. Prerequisite: 416 or consent of instructor.

422-3 Applied Fluid Mechanics for Mechanical Engineers. Applications of fluid mechanics in internal and external flows. The mathematical basis for inviscid and viscous flows calculations is developed with application to pipe and duct flows; external flow about bodies; drag determination; turbomachinery; and reaction propulsion systems. Semester design project of a fluid mechanical system. Prerequisite: Engineering 300, 313 and Mathematics 305.

423-3 Compressible Flows. Foundation of high speed fluid mechanics and thermodynamics. One-dimensional flow, isentropic flow, shock waves and nozzle and diffuser flows. Flow in ducts with friction and heat transfer. Prandtl-Meyer flow. Compressibility effects in reaction propulsion systems. Semester design project. Prerequisite: Engineering 300, 313.

430-3 Kinematic Synthesis. Kinematic synthesis of linkages, single loop and multiple loop mechanisms and geared linkages. Vector synthesis of spatial mechanism and its computer simulation. Prerequisite: 309.

435-3 Design of Mass Transfer Processes. Design principles of mass transfer processes. The rate mechanism of molecular, convective and interphase mass diffusion. The design of selected industrial mass transport process operations such as absorption, humidification, water-cooling, drying and distillation. Prerequisite: 302.

436-3 Mechanical Engineering Control. Analysis and design of controls for mechanical engineering systems: mechanical, electrical thermal, fluid and combinations of these. Prerequisite: 261 or Engineering 260b; 300, 335, 351.

437-1 Mechanical Engineering Controls Laboratory. Application of control principles to mechanical engineering systems. Speed and position control using computer-based instrumentation. Pneumatic control. Temperature and flow sensing and control. Automatic control of servo systems. Process control and Programmable Logic Controller (PLC) applications. Prerequisite: 436 and senior standing.

440-3 Heating, Ventilating, and Air Conditioning Systems Design. Principles of human thermal comfort. Heating and cooling load analysis. HVAC system design. Air conditioning processes. Prerequisite: 302.

442-3 Passive Solar Design. Design of solar heating systems for residence with emphasis on passive systems. Heat flow and heat loss. Estimating heat loss and heating requirements of buildings. Energy conserving building design. Predicting performance and economics of a system. Prerequisite: 302.

446-3 Energy Management. Fundamentals and various levels of analysis for energy management of commercial buildings and industrial processes and buildings. Use of energy management systems and economic evaluations are required in course projects. Prerequisite: 302.

448A-2 Refrigeration Equipment Design. The role of refrigeration equipment and systems in producing conditioned air to a controlled environment. Compressor fundamentals and design. Cooling equipment: heat pump, absorption units, vapor compression chillers. Heating equipment: boilers, furnaces, heat pumps. Alternate refrigerants. Simulation of refrigeration components and systems. Prerequisite: 302.

448B-3 Refrigeration Equipment Design and Analysis. The role of refrigeration equipment in producing conditioned air to a controlled environment. Compressor fundamentals and design. Cooling equipment: heat pumps, absorption units, vapor compression chillers. Heat equipment: boilers, furnaces, heat pumps. Alternate refrigerants. Simulation of refrigeration components and systems. Prerequisite: 302.

462-3 Physical Metallurgy. Structure of metals. Dislocation theory and plasticity. Solid state diffusion. Thermodynamics of solutions and phase diagrams. Phase transformations. Fracture mechanics. Creep and fatigue. Prerequisite: Engineering 312.

463-3 Introduction to Ceramics. Structure and physical properties, mechanical properties, processing and design of ceramics. Prerequisite: Engineering 312 or equivalent.

468-3 Friction Science and Applications. Study of systems and materials used for friction applications with a focus on aerospace and ground transportation vehicles. Course covers theories and experimental methods regarding friction and wear, contact mechanics, friction materials, vibration and noise, thermal transport and thermo-elastic phenomena. The course approach uses a materials emphasis. Lectures are complemented by exposure to laboratory methods and equipment. Design of a friction component, system or testing device. Prerequisite: Engineering 312 and senior standing or consent of instructor.

470-3 Mechanical System Vibrations. Linear Vibration analysis of mechanical systems. Design of mechanical systems to include effects of vibration. Prerequisite: Engineering 260b and 351, Mathematics 305.

472-3 Materials Selection for Design. Interaction of material design process with material selection criteria. Comparison of materials properties, processes and fabrication. Project work includes design models, material selection rationale, oral presentation of projects, construction of mock-up models, and theoretical design problems in the area of the student's specialization. Prerequisite: Engineering 222a, 312.

475-3 Machine Design I. Design of machines using bearings, belts, clutches, chains and brakes. Develops application of the theory of fatigue, power transmission and lubrication to the analysis and design of machine elements. Prerequisite: Engineering 311, 351.

476-3 Machine Design II. Design of machines using gears, springs, screws and fasteners, and adhesives. Matching power sources to driven machines. Prerequisite: 475.

477-3 Fundamentals of Computer-Aided Design and Manufacturing. Introduction to the concepts of computer-aided design and manufacturing (CAD/CAM). Subjects include computer graphics, geometric modeling, engineering analysis with FEM, design optimization, computer numerical controls, project planning, and computer integrated manufacturing. (CIM). Students are required to use computer packages for projects. Prerequisite: 475 or consent of instructor.

492-1 to 5 Special Problems in Engineering. Engineering topics and problems selected by either the instructor or the student with the approval of the instructor. Five hours maximum course credit. Not for graduate credit. Prerequisite: senior standing and consent of instructor.

495-4 (1,3) Mechanical Engineering Design. (a) Project development skills, feasibility and cost-benefit analysis, ethical issues, professionalism, preliminary design, identification of tasks, assignment of tasks to project team members, coordination of interdisciplinary team effort, development of final proposal, oral presentation of final proposal. Prerequisite: Senior standing in mechanical engineering (second to last semester) (b) Development of the final design, hardware implementation of the final design (if the project warrants), documentation of all stages of design, project coordination, documentation of the testing and evaluating of the design, cost estimating, scheduling, and written, oral, and poster presentation of the final design. Not for graduate credit. Prerequisite: Mechanical Engineering 495a, (last semester), Engineering 351; Engineering 361 or Mechanical Engineering 361; and one of Mechanical Engineering 301 or 400.

Mechanical Engineering and Energy Processes Faculty

Agrawal, Om, Professor, Ph.D., University of Illinois at Chicago, 1984.

Blackburn, James W., Associate Professor, Ph.D., University of Tennessee, 1988.

Blankenship, Michael, Visiting Instructor, M.S., Southern Illinois University, 1991.

Byrne, Christopher, E., Assistant Professor, Ph.D., John Hopkins University, 1996.

Chen, Juh W., Professor and *Dean*, Ph.D., University of Illinois, 1959.

Chu, Tsuchin, Associate Professor, Ph.D., University of South Carolina, 1982.

Don, Jarlen, Associate Professor, Ph.D., Ohio State University, 1982.

Farhang, Kambiz, Associate Professor, Ph.D., Purdue University, 1989.

Helmer, Wayne Allen, Professor, Ph.D., Purdue University, 1974.

Hesketh, Howard B., Professor, *Emeritus*, Ph.D., Pennsylvania State University, 1968.

Hippo, Edwin J., Professor, Ph.D., Pennsylvania State University, 1977.

Jefferson, Thomas B., Professor, *Emeritus*, Ph.D., Purdue University, 1955.

Kent, Albert C., Professor, *Emeritus*, Ph.D., Kansas State University, 1968.

Khonsari, Michael, M., Professor and *Chair*, Ph.D., University of Texas at Austin, 1983.

Koc, Rasit, Associate Professor, Ph.D., University of Missouri-Rolla, 1989.

Kulkarni, Manohar R., Associate Professor, Ph.D., University of Missouri, 1986.

Lalvani, S. B., Professor, University of Connecticut, 1982.

Mahajan, Ajay, Associate Professor, Ph.D., Tulane University, 1994.

Muchmore, Charles B., Professor, Ph.D., Southern Illinois University, 1970.

O'Brien, William S., Associate Professor, *Emeritus*, Ph.D., West Virginia University, 1972.

Orthwein, William, Professor, *Emeritus*, Ph.D., University of Michigan, 1959.

Rajan, S., Professor, Ph.D., University of Illinois, 1970.

Swisher, James H., Professor, *Emeritus*, Ph.D., Carnegie-Mellon University, 1963.

Tempelmeyer, Kenneth E., Professor, *Emeritus*, Ph.D., University of Tennessee, 1969.
Wiltowski, Tomasz, Visiting Associate Professor, Ph.D., Institute of Catalysis & Surface Chemistry, Cracow, Poland, 1982.

Wittmer, Dale, Professor, Ph.D., University of Illinois, 1980.
Wright, Maurice, Professor, Ph.D., University of Wales, 1962.

MEDPREP (Medical/Dental Education Preparatory Program)

MEDPREP is a postbaccalaureate program within the Southern Illinois University School of Medicine. MEDPREP is a certificate granting program. Courses are restricted to MEDPREP students only. Admission to MEDPREP is by direct application to the program. Contact the MEDPREP admissions coordinator for further information.

Courses (MEDP)

- 400-1 to 6 (1 per semester) MEDPREP Seminar.** Seminar on social, professional, and scientific issues of interest to students planning a career in medicine or dentistry. Topics: (a) Orientation; (b) Medical/dental seminar. Required of MEDPREP participants. Prerequisite: restricted to MEDPREP students. Must be taken in a,b sequence. Mandatory Pass/Fail.
- 401-1 to 18 (1 to 2 per topic) MEDPREP Basic Skills.** Focus on skills critical for academic success in preprofessional and professional training. Topics: (a) Learning skills; (b) Science process skills (P/F only); (c) Quantitative skills (P/F only); (d) Perceptual motor skills; (e) Convocation (S/U only); (f) Reasoning in reading and writing I; (g) Reasoning in reading and writing II; (h) Reasoning in reading and writing III; (i) Other. Topic (a) and (e) required of all students. Not for graduate credit. Prerequisite: restricted to MEDPREP students only.
- 402-1 to 13 (a,b,c,e,f: 1 to 2 per topic, d: 3 hours) MEDPREP Special Problems.** Seminars, workshops, lectures, and field experiences related to preparing the student for medical/dental school and careers in medicine or dentistry. Topics: (a) MCAT/DAT orientation; (b) Research seminar; (c) Clinical experience, mandatory pass/fail; (d) Independent research, mandatory pass/fail; (e) Independent readings; (f) Other. Not for graduate credit. Prerequisite: restricted to MEDPREP students.
- 403-1 to 33 (1 to 3 for sections a,b,c,d,e,f, i; 1 to 6 for sections g and h) MEDPREP Biology Problem-Solving.** Depending on individual need content will be remedial, supplementary to concurrent Biological Science courses or additional permitting acceleration. Topics: (a) Medical genetics; (b) Anatomy; (c) Cardiovascular physiology; (d) Embryology; (e) Immunology; (f) Endocrinology; (g) Biology review; (h) Neural science; (i) Biology problem solving. Not for graduate credit. Prerequisite: restricted to MEDPREP students.
- 404-1 to 18 (1 to 3 per topic) MEDPREP Chemistry Review.** Content may be remedial, supplemental to concurrent preprofessional chemistry courses; additional permitting acceleration, or preparational for the MCAT. Topics (a) Inorganic review; (b) Inorganic; (c) Organic review; (d) Organic; (e) Biochemistry; (f) Chemistry problems solving. Not for graduate credit. Prerequisite: restricted to MEDPREP students.
- 405-1 to 9 (1 to 6 per topic a, 1 to 3 for topic b) MEDPREP Physics Review.** Content may be remedial, supplemental to concurrent preprofessional physics courses, additional permitting acceleration, or preparational for the MCAT. Topics: (a) Physics review; (b) Physics problem solving. Not for graduate credit. Prerequisite: restricted to MEDPREP students.

MEDPREP Faculty

Bardo, Harold R., Director, Assistant Dean for Minority Affairs and Counseling, Educational Psychology, Ph.D., Southern Illinois University, 1972.
Chaklos, Mary S., Visiting Instructor, Chemistry and Biochemistry, Ph.D., Southern Illinois University, 1979.
Henry, Paul, Associate Professor, Counselor Education/Educational Psychology, Ph.D., Southern Illinois University, 1982.
Herrold, Linda K., Visiting Instructor, Mathematics, M.S., Southern Illinois University, 1990.

Jackson, Evelyn W., Associate Professor, Education/Reading, Ph.D., Southern Illinois University, 1975.
Jones, Kathleen A., Visiting Instructor, Biological Sciences, M.S., Southern Illinois University, 1990.
Kaplan, Harold M., Visiting Professor, Physiology, Ph.D., Harvard University, 1933.
McGlinn, Shirley, Instructor, Zoology, M.S., Southern Illinois University, 1975.
Szary, Barbara, Instructor, Immunology, Ph.D., Institute of Immunology and Experimental Therapy, Poland, 1977.

Microbiology (Department, Major, Courses)

Microbiology is the study of microorganisms, a large and diverse group of organisms that exist as single cells or cell clusters. The science of microbiology includes the

study of microbial growth, biochemistry, genetics and ecology and the relationship of microorganisms to other organisms including humans. As a basic biological science, microbiology provides some of the most accessible research tools for probing the nature of life processes. Our sophisticated understanding of the chemical and physical principles governing life has developed from studies of microorganisms. As an applied biological science, microbiology deals with many important practical problems in medicine, agriculture, biodegradation and food industries, and is at the heart of biotechnology industries. Students pursuing a major in microbiology will have an opportunity to take coursework related to these important areas. Chemistry is also an integral part of modern microbiology. Therefore, general and organic chemistry are required for the microbiology major. The chemistry courses required for the microbiology degree satisfy the requirements for a chemistry minor. In addition, opportunities for undergraduate research in microbial biochemistry, genetics and diversity, as well as in immunology and molecular biology are available for outstanding undergraduate students. The microbiology major, chemistry minor and undergraduate research options are strong assets for students who seek careers in health care professions or industrial microbiology, or who seek graduate training in microbiology or related disciplines.

The following program of study prepares students for research or teaching positions after the bachelor degree or for advanced study in graduate programs in microbiology, molecular biology or cell biology. A grade of C or better must be earned in Microbiology 301 and 302 to fulfill degree requirements. Transfer courses used for Microbiology 301 and 302 equivalencies must have a C grade or better. An overall grade point average of 2.00 or better for all microbiology courses is required to satisfy degree requirements.

Bachelor of Arts Degree, College of Science

University Core Curriculum Requirements	41 ¹
College of Science Academic Requirements	6
Supportive skills coursework consisting of a minimum of six semester hours selected from: Computer Science 200b or 201; English 291, 491; Mathematics 282 or 283 or Plant Biology 360; any two-semester sequence of one of the following foreign languages: 200-level French, German, Japanese, Russian or Spanish.	
Requirements for Major in Microbiology	68
Biology 200a,b	6 ²
Microbiology 301, 302, 403, 460, 480, 481 and 495	22
Microbiology electives	12
Senior level work consisting of lecture courses selected from: 421, 425, 453, 454, 470	
Chemistry 200, 201, 210, 211, 340, 341 and 342	16 ²
Mathematics 141 or 150	4 ²
Physics 203a,b and 253a,b	8 ²
Electives	5
Total	120

¹The 41 hour requirement may be reduced by taking College of Science or major requirements which are approved substitutes for University Core Curriculum requirements.

²These courses meet the College of Science requirements for biological sciences, physical sciences and mathematics.

Microbiology Suggested Curricular Guide

FIRST YEAR			SECOND YEAR		
	FALL	SPRING		FALL	SPRING
BIOL 200a,b	3	3	CHEM 340, 341.....	5	-
CHEM 200, 201	4	-	CHEM 342.....	-	3
CHEM 210, 211	-	4	CS 201.....	-	3
ENGL 101, 102	3	3	MATH 141	4	-
Fine Arts.....	-	3	Humanities	-	3
MATH 108, 109.....	3	3	MICR 301, 302	4	3
			SPCM 101.....	3	-
			Social Science.....	-	3
Total.....	13	16	Total.....	16	15
THIRD YEAR			FOURTH YEAR		
	FALL	SPRING		FALL	SPRING
Human Health	2	-	MICR 421 or 425.....	3	-
Interdisciplinary	-	3	MICR 453	-	3
Humanities	3	-	MICR 425 or 454.....	3	-
MATH 282	-	3	MICR 470	-	3
MICR 460, 403.....	3	3	MICR 480, 481	4	4
PHYS 203a, 253a	4	-	MICR 495	-	1
PHYS 203b, 253b.....	-	4	Multicultural	3	-
Social Science	3	-	Elective	2	-
Elective	-	3			
Total.....	15	16	Total.....	15	14

Minor

A minor in microbiology consists of 16 semester hours, to include 301, 302, and other courses determined by the student in consultation with the microbiology adviser.

Courses (MICR)

- 201-4 Elementary Microbiology.** [IAI Course: L1 903L] Basic concepts of microbiology, classification, metabolic activity and the effect of physical and chemical agents on microbial populations. Host-parasite interactions. Infectious agents, methods of transmission and control. Three hours lecture and three hours laboratory per week. Spring semester. Prerequisite: for students of Allied Health Careers, Dental Hygiene, Dental Technology, Respiratory Therapy, Health Care Management, Animal Science and others with consent of instructor.
- 202-2 Human Genetics and Human Health.** (Same as Zoology 202.)(University Core Curriculum) [IAI Course: L1 906] Acquaints the student with the role played by genetic information in human development and disease. Discussion topics will include genetics and human diversity, the interaction of genetic information and the environment, the concepts of genetic disease, the mechanisms and ethics of gene therapy and the possibilities of manipulating the genetic material.
- 301-4 Principles of Microbiology.** Morphology, structure, metabolism, population dynamics and heredity of the microorganisms with emphasis on pure culture methods of study of bacteria, viruses and related organisms. Three hours lecture, three hours laboratory. Fall semester. Prerequisite: one year of college chemistry and Biology 200a, or Plant Biology/Zoology 115 or Zoology 118.
- 302-3 Molecular Biology.** Molecular structure, dynamics, and genetics of living cells and viruses with particular attention to the transfer of biological information. Spring semester. Prerequisite: one year of college chemistry and Biology 200a.
- 403-3 Medical Microbiology Lecture.** (Same as Molecular Biology, Microbiology and Biochemistry 403.) A survey of the more common bacterial, mycotic and viral infections of humans with particular emphasis on the distinctive properties, pathogenic mechanisms, epidemiology, immunology, diagnosis and control of disease-causing microorganisms. Three hours lecture. Spring semester. Prerequisite: 301.
- 405-3 Clinical Microbiology.** (Same as Molecular Biology, Microbiology and Biochemistry 405.) This course will be offered in Springfield only. A comprehensive course for health science professionals covering the biology, virulence mechanisms, and identification of infectious agents important in human disease and host-defense mechanisms. Clinical applications are emphasized. Three hours lecture. Prerequisite: 301 or equivalent.
- 421-3 Biotechnology.** (Same as Molecular Biology, Microbiology and Biochemistry 421.) Topics covered will include the genetic basis of the revolution in biotechnology, medical applications including genetic screening and therapeutic agents, industrial biotechnology and fermentation, and agricultural applications. Three hours lecture. Fall semester. Prerequisite: 302.
- 423-3 Geomicrobiology.** (Same as Molecular Biology, Microbiology and Biochemistry 423 and Geology 423.) The course will focus on the role that microorganisms play in fundamental geological processes. Topics will include an outline of the present understanding of microbial involvement of weathering of rocks, formation and transformation of soils and sediments, and genesis and degradation of minerals. Elemental cycles will also be covered with emphasis on the interrelationships between the various geochemical cycles and the microbial trophic groups involved. Prerequisite: 301 and Chemistry 210 and 211. Recommended: Geology 220, 221 or 222.

425-3 Biochemistry and Physiology of Microorganisms Lecture. (Same as Molecular Biology, Microbiology and Biochemistry 425.) Chemical composition, cellular structure, and metabolism of microorganisms. Fall semester. Prerequisite: organic chemistry.

441-3 Virology Lecture. General properties; classification and multiplication of bacterial and animal viruses; lysogeny; immunological and serological reactions; relation of viruses to cancer; consideration of selected viral diseases of animals. Prerequisite: 301 and 302.

444-3 Risk Assessment for Genetics and Medicine. (Same as Molecular Biology, Microbiology and Biochemistry 444.) A lecture-discussion course on the use of Bayesian probability to assess risks in human genetics and medicine. Includes basic laws of probability, pedigree analysis, the interpretation of laboratory tests and basic clinical decision theory, including decision trees. Active problem solving will be emphasized. Prerequisite: Biology 305.

453-3 Immunology Lecture. (Same as Molecular Biology, Microbiology and Biochemistry 453.) Principles of molecular and cellular immunology. Particular emphasis is given to molecular mechanisms involved in activation and maintenance of the immune response at the basic science level. The role of the immune system in medical diagnostic procedures and in human health is also discussed. Spring semester. Prerequisite: 403 or permission of instructor.

454-4 Soil Microbiology. (Same as Plant and Soil Science 454.) A study of microbial numbers, characteristics, and biochemical activities of soil microorganisms with emphasis on transformation of organic matter, minerals, and nitrogen in soil. Lab fee \$15.00. Prerequisite: 301 or Plant and Soil Science 240.

455-2 Medical Immunology. (Same as Molecular Biology, Microbiology and Biochemistry 455.) This course will be offered in Springfield only. A survey of the components of the immune system and how they interact with each other to produce responses that are important in the control or mediation of human disease. Two hours lecture. Prerequisite: 301 or equivalent.

460-3 Genetics of Bacteria and Viruses. (Same as Molecular Biology, Microbiology and Biochemistry 460.) Genetic mechanisms, mutation, transformation, recombination, transduction, lysogeny, phenotypic mixing and reactivation phenomena. Three hours lecture. Fall semester. Prerequisite: 301 and 302.

470-3 Prokaryotic Diversity Lecture. (Same as Molecular Biology, Microbiology and Biochemistry 470.) A consideration of the major groups of prokaryotes with special emphasis on their comparative physiology and biochemistry. Three hours lecture. Spring semester. Prerequisite: 301 or equivalent.

480-4 Molecular Biology of Microorganisms Laboratory. (Same as Molecular Biology, Microbiology and Biochemistry 480.) Genetic and biochemical analyses of microorganisms using a variety of techniques in molecular biology, molecular genetics and biotechnology. Six hours laboratory per week plus two hours of supervised unstructured laboratory work in most weeks. Prerequisite: 301 and 302 with a C grade or better and one (or concurrent enrollment in one) of the following: 421, 425 or 460.

481-4 Diagnostic and Applied Microbiology Laboratory. (Same as Molecular Biology, Microbiology and Biochemistry 481.) Enrichment and isolation of medically relevant prokaryotes from natural samples, diagnostic methods for the identification of pathogenic bacteria and infection and the nature of the immune response. Six hours laboratory per week plus two hours unstructured, supervised laboratory work in most weeks. Prerequisite: 301 and 302 with a C grade or better and two (or concurrent enrollment in two) of the following: 403, 453 or 470.

490-1 to 3 Undergraduate Research Participation. Investigation of a problem either individually or as part of a research group under the direction of a member of the faculty. Not for graduate credit. Prerequisite: 3.0 grade point average in microbiology and consent of instructor.

495-1 Senior Seminar. Readings, discussions, and presentations of current research topics on microbiology. Offered in spring semester. Prerequisite: senior standing in Microbiology.

Microbiology Faculty

Achenbach, Laurie A., Associate Professor, Ph.D., University of Illinois, 1988.

Borgia, Peter, Professor, Ph.D., University of Illinois, 1973.

Brewer, Gregory, Professor, Ph.D., University of California, 1972.

Caster, John, Assistant Professor, Ph.D., St. Louis University, 1968.

Clark, David P., Professor, Ph.D., University of Bristol (England), 1976.

Coates, John D., Assistant Professor, Ph.D., University College Galway, 1991.

Cooper, Morris D., Professor, Ph.D., University of Georgia at Athens, 1971.

Fix, Douglas F., Associate Professor, Ph.D., Indiana University, 1983.

Haddock, John D., Assistant Professor, Ph.D., Virginia Polytechnic Institute and State University, 1990.

Jackson, Robert, Professor, Ph.D., Purdue University, 1963.

Madigan, Michael T., Professor, Ph.D., University of Wisconsin, 1976.

Marcuzzi, Adriana B., Assistant Professor, Ph.D., University of Rosario (Argentina), 1979.

Maroun, Leonard E., Professor, Ph.D., Catholic University, 1970.

Martinko, John M., Associate Professor and Chair, Ph.D., State University of New York at Buffalo, 1978.

Moticka, Edward A., Professor, Ph.D., University of Illinois at the Medical Center, 1970.

Myers, Walter L., Professor, D.V.M., Ph.D., University of Wisconsin, 1961.

Parker, Jack, Professor and Dean, Ph.D., Purdue University, 1973.

Rouhandeh, Hassan, Professor, *Emeritus*, Ph.D., Kansas State University, 1959.
Rowan, Dighton F., Professor, *Emeritus*, Ph.D., Stanford University, 1954.

Tewari, Ram, Professor, D.V.M., Agra University, India, 1960; Ph.D., Ohio State University, 1966.
Watabe, Kounosuke, Associate Professor, Ph.D., Kyoto University, Japan, 1981.

Mining and Mineral Resources Engineering (Department)

(SEE MINING ENGINEERING FOR MAJOR)

Mining Engineering (Major, Courses)

Mining engineers engage in planning, design, development, and management of surface and underground mining operations for exploitation of the earth's mineral deposits. The mining engineering program prepares graduates to meet the challenges of the mining industry with emphasis on coal and aggregate industries. Coursework in the program includes such areas as surface and underground mining systems, mine ventilation, ground control and rock mechanics, mineral and coal processing, material handling systems, mineral economics, mine environment, health and safety engineering, probability and statistics applications, mine equipment maintenance, and computer-aided mine design. Facilities include modern, well-equipped rock mechanics, mine ventilation, mineral processing, materials handling and mine environment laboratories.

After completing the program, the graduate may work in an engineering or management position for mining industries, equipment manufacturing concerns, research organizations, or government agencies. The coursework also provides strong preparation for further study at the graduate level. The mining engineering major is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (EAC/ABET).

Bachelor of Science Degree, College of Engineering

<i>University Core Curriculum Requirements</i>	41
Foundation Skills	12
English 101, 102	6
Mathematics (substitute Mathematics in major)	3
Speech Communication 101	3
Disciplinary Studies	23
Fine Arts	3
Human Health	2
Humanities	6
Science (substitute Physics and Chemistry)	6 ^{2,3}
Social Science	6 ^{2,3}
Integrative Studies	6
Multicultural	3
Interdisciplinary	3 ^{2,3}
<i>Requirements for Major in Mining Engineering</i>	(9) + 90 ¹
Basic Sciences	(6) + 15
Physics 205a,b; 255a,b	(3) + 5
Chemistry 200, 201, 210	(3) + 4
Geology 220, 390	6
Mathematics 150, 250, 251, 305, Mining Engineering 417	(3) + 14
Engineering	61
General: Engineering 102, 222a, 361,	6
Engineering Topics	55

Engineering Science: Civil Engineering 250, 251, 350a,b, 370a,b, Engineering 300	17
Mining Coursework: Civil Engineering 263 or Mining Engineering 320, 400, 410, 415, 420, 421, 425, 431, 440, 445 or 475, 455	34
Capstone Design Mining Engineering 460	4
Total	131

¹Courses required for the major will apply toward 9 hours of University Core Curriculum, making a total of 41 in that area.

²Engineering requirements for Core Curriculum Social Science and Core Curriculum Sciences are more restrictive than those of the University as a whole.

³Transfer students holding an associate degree in a baccalaureate-oriented program must have a sequence of courses in social science or humanities terminated by a junior level course. See departmental adviser for an approved course. Students transferring from other programs or institutions will be required to (a) complete a course sequence in humanities or social sciences which includes a junior level course or (b) meet the Core Curriculum requirements for engineering students.

⁴Engineering sciences have their roots in mathematics and basic sciences, but carry that knowledge toward creative design. Engineering design is the process of devising a system, component, or process using basic and engineering sciences, mathematics, and creative thinking along with economic, safety, and environmental considerations.

Courses (MNGE)

Safety glasses, an electronic calculator, and textbooks are required of all mining engineering students.

270-3 Introduction to Mining Engineering. Introduction to Mining Engineering (Non-Mining majors only). Importance of mining in a country's economy; stages of mining: prospecting and exploration, development and exploitation; unit operations of mining, surface mining systems, underground mining methods, novel mining methods, mineral processing, marketing of minerals. Prerequisites: sophomore standing or consent of instructor.

320-3 Surveying for Engineers. Land Surveying. Tacheometry and correlation. Aerial Surveying. Production measurement. Analysis of survey data for engineering design. Geophysical and borehole surveying. Laboratory. Prerequisite: Mathematics 150, Engineering 102 or consent of instructor.

392-1 to 6 Mining Engineering Cooperative Education. Supervised work experience in industry, government or professional organizations. Students work with on-site supervisor and faculty adviser. Reports are required from the student and the employer. Hours do not count toward degree requirements. Mandatory Pass/Fail. Prerequisite: sophomore standing.

400-3 Principles of Mining Engineering. Introduction to role of mining in the economics of the minerals industry. Mine exploration and valuation. Mining methods and equipment. Explosives and blasting. Blast hole layout considerations. Exploration program design. Geophysical logging. Land acquisition and control. Public relations and environmental quality. Field trips. Not for graduate credit. Prerequisite: Geology 220 or concurrent enrollment or consent of instructor.

401-1 Mining Environmental Impacts and Permits. Socio-economic impacts of mining industry. Analyzing the markets for coal and its products. Mining operations and related environmental impacts. Mining permits. Prerequisite: 400 or consent of instructor.

405-1 Field Trip. Visit several mining operations and prepare a report. Not for graduate credit. Prerequisite: 400 and Geology 390.

410-3 Underground Mining Systems Design. Study of coal property evaluation. Underground mining methods. Design of mine production and its ancillary systems and subsystems. Prerequisite: Civil Engineering 263 or Mining Engineering 320, 400, Mathematics 251, Engineering 361, Geology 390 or concurrent enrollment. Consent of instructor for graduate students and non-majors.

411-2 Mine Machinery. Analysis and design of underground and surface mining machinery. Equipment and parts selection. System development. Preventive maintenance. Prerequisite: 410.

413-3 Mine and Industrial Power Systems. Electrical circuits, transformers, motors and their industrial applications. Electrical power distribution; systems design and components selection. Pneumatic and hydraulic power principles. Prerequisite: Physics 205 and Mathematics 250.

415-4 Surface Mining, Quarrying and the Environment. Surface mining systems and quarrying methods for coal, aggregate, and hardrock minerals. Surface mining and quarrying economics. Product specifications and transportation. Equipment sizing and selection. Drainage control. Blasting design for control of fragmentation, air blast and vibration. Prerequisite: 400, Civil Engineering 263 or Mining Engineering 320, Mathematics 251 and Engineering 361. Consent of instructor for graduate students and non-majors.

417-3 Applied Probability and Statistics for Engineers. Probability and statistics concepts, analysis of engineering experimental data. Fitting experimental data to distribution functions. Regression analysis. Quality control in production systems. Reliability in engineering processes. Stochastic simulation of engineering systems. Prerequisite: Mathematics 251 or consent of instructor.

418-3 Mining of Ore Deposits. Analysis, planning and design of surface hardrock mines and underground mining systems. Analysis of mining and equipment costs. Prerequisite: 400, Civil Engineering 263 or Mining Engineering 320, and Geology 390.

420-3 Mineral and Coal Processing. Principles of processing minerals, aggregates, and coal, including unit operations of comminution, classification, solid-solid separation, dewatering, and tailings disposal. Laboratory investigations of the fundamental principles governing unit operations including size reduction, mineral liberation, classification, mineral recovery, and dewatering. Laboratory. Prerequisite: 400, Chemistry 210, Physics 205b, Mathematics 305, Engineering 313 or concurrent enrollment. Consent of the instructor for non-majors and graduate students.

421-3 Mineral Processing Plant Design. Engineering design of unit operations used for mineral, aggregate, coal processing, flowsheet design, simulation of processing plants, evaluation of plant performance, and process control. Laboratory investigations on the design of unit operations including size reduction, classification, gravity separation, flotation, and dewatering. Laboratory. Prerequisite: 417 or concurrent enrollment and 420. Consent of instructor for graduate students and non-majors.

425-3 Mine Ventilation Systems Analysis and Design. Study of the theories and practice of natural and forced mine ventilation. Fan and mine characteristics. Ventilation network analysis. Mine ventilation design and problem analysis. Laboratory. Prerequisite: 410, Engineering 300 and 313. Consent of instructor for graduate students and non-majors.

430-3 Economics of Mineral Resources. Economics of mineral resources. Investment decision making criteria; economic viability of mining projects, financing mining projects; sensitivity and risk analyses. Prerequisites: 400, Engineering 361, or consent of instructor.

431-3 Rock Mechanics: Principles and Design. Analysis of stress and strain, elementary elasticity, stress distribution around openings, engineering properties of rocks, artificial support and reinforcement, slope stability. Laboratory. Prerequisite: Engineering 311 and Mathematics 305.

435-3 Operations Research and Computers in Mine Design. Mine systems analysis, operations research and statistics in decision making, production engineering, mine planning, optimization, linear programming, computer simulation. Prerequisite: either 410 and 415 or 418 alone; Engineering 222 and 361.

440-3 Material Handling Systems. Analysis and design of material handling systems and subsystems. Material handling systems economics. Prerequisite: 410, 413, 415 and 417 or concurrent enrollment. Consent of instructor for graduate students and non-majors.

445-3 Mine Equipment Maintenance Programs. Mechanical, hydraulic, and electrical systems in mining equipment. Equipment maintenance problems in mines and minerals processing facilities. Cost of lost production. Cost centers and identification of high cost problem areas in mining operations. Principles, design, and development of maintenance systems. Maintenance organization, responsibility, and scheduling. Prerequisite: 410, 415, 417, Engineering 385, concurrent enrollment. Consent of instructor for graduate students and non-majors.

455-3 Mine Environment, Health and Safety Engineering. Analysis of mine environmental impacts and their mitigation, safety problems and rules and regulations, hazards and accidents, sealing and recovery of mines, design of mine emergency plans, safety methods and health hazard control plans. Acid mine drainage, minerals waste disposal environmental remediation. Laboratory. Prerequisite: 410, 415, 417, or concurrent enrollment. Consent of instructor for graduate students and non-majors.

460-4 Computer-Aided Mine Systems Analysis and Design. Projects in planning and design of surface and underground mining systems. Evaluate and design mining subsystems; integrate subsystems and procedures into a preliminary mine design; and optimize operations from exploration to closure. Ethics and professionalism in engineering. Two lectures and two two-hour laboratories per week. Prerequisite: 420, 425, 431 or consent of instructor.

470-3 Experimental Methods in Rock Mechanics. Supplement theoretical knowledge gained in 431 with laboratory experiments. Physical property tests for specific gravity, moisture, density porosity of rocks. Unconfined and confined compressive strength, tensile strength, shear strength, photoelasticity, static and dynamic strain measurement systems, field instrumentation techniques. Laboratory. Prerequisite: 431.

475-3 Analysis and Design of Mine Excavations. Rock classification; design of shafts, slopes, tunnels, and underground chambers; support requirements; design of slopes; design of underground mining systems from ground control point of view; design of impoundments. Prerequisite: 410, 415 and 431. Consent of instructor for graduate students and non-majors.

480-3 Rock Fragmentation Systems. Principles of rock fragmentation. Drilling and mechanics of rock penetration, drillability indices. Chemistry of explosives. Design of blast patterns in surface and underground mines and quarries, prevention of airblast, vibration, and noise. Prerequisite: 415. Consent of instructor for graduate students and non-majors.

492-1 to 5 Special Problems in Mining Engineering. Topics and problems selected either by the instructor or the student with the approval of the instructor. Five hours maximum course credit. Not for graduate credit. Prerequisite: senior standing and consent of instructor.

Mining Engineering Faculty

Chugh, Yoginder P., Professor and *Chair*, Ph.D., Pennsylvania State University, 1971.

Honaker, Ricky Q., Associate Professor, Ph.D., Virginia Polytechnic Institute and State University, 1992.

Baklashov, Dimitri, Instructor, M.S., Southern Illinois University Carbondale, 1991.

Paul, Bradley C., Associate Professor, Ph.D., University of Utah-Salt Lake, 1989.

Sevim, Hasan, Professor, Ph.D., Columbia University, 1984.

Sinha, Atmesh K., Professor, Ph.D., University of Sheffield, 1963.

Mortuary Science and Funeral Service (Major, Courses)

This program is the only mortuary science and funeral service program offered in a public university in the state of Illinois. The initial program was developed in response to a request from the Illinois Funeral Directors Association. The program is accredited by the American Board of Funeral Service Education, and graduates meet licensing requirements established by the Illinois Department of Professional Regulations. This program in mortuary science and funeral service is recognized by other state licensing boards.

The program is designed to accept students directly from high school or to accommodate students transferring from other accredited post-secondary institutions. Thirty students will be selected to begin the professional sequence each fall semester. Enrollment in the program is limited due to a variety of circumstances, including rules of accreditation, limitations of facilities/internship sites, and faculty-student ratio.

To be considered for admission to the program, a Mortuary Science and Funeral Service application must be completed. The application packet will be sent to a prospective student following admission to the University. It is important that all application procedures be completed as soon as possible. Selection will be based on a candidate's high school rank, grades in high school mathematics and science courses, and ACT results. For transfer students, the grade point average as calculated by SIUC and the earned college level credits will be used for selection criteria. Recommendations from funeral directors, essay responses, and professional references are also required of all applicants. Decisions on who is selected into the professional sequence will be made beginning in January on a rolling basis.

Prospective students attending another college or university prior to transferring to SIUC should concentrate on completing courses articulated or approved as substitutes for SIUC's University Core Curriculum requirements. Prior to taking courses that appear to equate to the professional sequence, the applicant should consult with an adviser within the Mortuary Science and Funeral Service program.

The Mortuary Science and Funeral Service program has a Linkage Agreement with Southeastern Illinois College, Rend Lake College and Shawnee College. If you have questions about this agreement, contact the community college advisor or SIUC Health Care Professions at (618) 453-8801.

In addition to the professional course work, the student will be responsible for the University Core Curriculum as well as a number of courses which will lead to an understanding of the psychological, sociological and theological implications of life and death. Faculty members in the professional courses are licensed funeral directors and embalmers with experience in the profession. The program's Advisory Committee is composed of mortuary science and funeral service professionals.

The student is required to complete the Hepatitis B vaccine series before participating in the laboratory classes. The vaccine may be acquired at the SIUC Health Service, a local health department, or through a private physician. The cost of this vaccine is the responsibility of the student and documentation showing completion of the vaccine series must be presented to the advisor prior to registration. In addition to the Hepatitis B vaccine requirement, there is a laboratory fee of \$150.00 to cover the expense of personal protective equipment.

Graduates of the program will be eligible to take the National Board Examination in embalming and funeral directing. Since laws governing the profession are enacted at the state level, licensing and qualification requirements vary among states. Prospective students should contact the licensing body of the state in which they wish to attempt licensure. Career opportunities are excellent and to date all graduates who desire placement within the profession have been offered entry level employment.

The Mortuary Science and Funeral Service program can be completed at Southern Illinois University Carbondale or in combination with other institutions of higher education.

Bachelor of Science Degree, College of Applied Sciences and Arts

University Core Requirements 41

ENGL 101 and 102, MATH 113, SPCM 101, ZOOL 115/118, CHEM 106, PSYC 102, SOC 108, MUS 103, PHIL 103a and 104, PHSL 201, HIST 202 and SOC 304i or other approved Interdisciplinary Studies.

Requirements for Major 70

MSFS 101, 108, 225a,b, 230, 240, 245, 255, 256, 257, 270, 302, 340, 351, 352, 360, 401, 410, 411, 412

Approved Career Electives 9

Total 120

Mortuary Science and Funeral Service Suggested Curricular Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
ZOOL 115 or 118.....	3-4	-	ENGL 102.....	3	-
MATH 113	3	-	CHEM 106.....	3	-
PSYC 102.....	3	-	SPCM 101.....	3	-
MUS 103.....	3	-	MSFS 230.....	4	-
MSFS 101, 108.....	3	3	Major Elective.....	4	-
ENGL 101	-	3	Core Elective.....	-	3
IMS 120	-	3	MSFS 256.....	-	3
SOC 108.....	-	3	IST 208	-	3
PHIL 103a	-	3	MSFS 245.....	-	4
			MSFS 240.....	-	3
Total.....	15-16	15	Total.....	17	16
THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
MSFS 302.....	4	-	MSFS 360.....	4	-
MSFS 225a,b	4	4	MSFS 351	4	-
MSFS 255, MSFS 340.....	3	3	MSFS 352	3	-
MSFS 257, PHIL 104	3	3	MSFS 401.....	3	-
MSFS 270.....	2	-	MSFS 410	-	5
PHSL 201	-	2	MSFS 411	-	5
Core Elective	-	3	MSFS 412.....	-	2
Total.....	16	15	Total.....	14	12

Courses (MSFS)

101-3 Orientation to Funeral Service. Students will trace the history of funeral services from ancient times through practices with emphasis on the development of funeral practices in the United States. Students study the customs of various cultures throughout the world including customs in the United States. They will demonstrate a knowledge of funeral service organizations and will discuss topical areas of current discussion. Lecture three hours. Prerequisite: consent of instructor.

108-3 Funeral Service Psychology. Designed to acquaint the student with an overview of psychology in funeral service as applied to death, grief and mourning. Students will examine interpersonal and public relations as they affect the funeral service practitioner in relationship with the public served. Lecture three hours. Prerequisite: 101 or Psychology 102.

225-8 (4,4) Embalming Theory and Practice. (a) The student will be introduced to techniques of embalming through a study of the body, sanitation, embalming agents, instruments, and methods of embalming. The student studies the theory, practices, and techniques of sanitation as well as restoration and preservation of deceased human remains. Laboratory experience will consist of embalming deceased remains and of other related activities. Lecture three hours. Laboratory two hours. **(b)** The student will study the anatomy of the circulatory system, the autopsied case, the cavity embalming, the contents of the thoracic and abdominal cavities and various embalming treatments. Laboratory experience is a continuation of 225a. Lecture three hours. Laboratory two hours. Must be taken in a,b sequence. Prerequisite: restricted to mortuary science and funeral service majors, 240, and proof of Hepatitis B vaccine or Titre test.

230-4 Mortuary Anatomy. The student will study the structure and function of the human body as a whole including: general organization, structural organization, tissues, skeletal system, nervous system, circulatory system, physiology of circulation, glands, respiratory system, digestive system, genitourinary system, integument and special senses. Lecture three hours. Prerequisite: restricted to major and Zoology 115/118.

240-3 Mortuary Regulations. The student will have knowledge of the federal, state and local regulations pertaining to the funeral profession. Studies will include the Occupational Safety and Health Administration regulations, Americans with Disabilities Act, Uniform Anatomical Gift Act, the Federal Trade Commission requirements, Rules and Regulations for the Control of Communicable Disease and other such regulations governing funeral service. Lecture three hours. Prerequisite: restricted to majors or consent of instructor.

245-4 Restorative Art. Students will build upon knowledge of the anatomical structures of the cranial and facial areas of the human skull gained through anatomy. Utilizing terms and knowledge of cranial and facial structures, the student will describe the facial proportions and markings. Students will develop a knowledge of anatomical modeling, facial expressions, familiarization with instruments, materials and techniques necessary to rebuild the human face that has been destroyed by traumatic and/or pathological conditions. Laboratory assignments will include modeling, hair restoration and others. Lecture three hours. Laboratory two hours. Prerequisite: 230.

255-3 Embalming Chemistry. The student will study the chemistry of the body, sanitation, toxicology, chemical changes in deceased human remains, disinfection, and embalming fluids. Laboratory experiences in 225a will complement lecture material. Lecture three hours. Prerequisite: Chemistry 106 and concurrent enrollment in 225a.

256-4 Introductory Microbiology. The student will survey microbiology: morphology, physiology, populations of microbial organisms, microbial destruction, immunology, and pathogenic agents. Lecture three hours. Prerequisite: restricted to major, Zoology 115, 118 and Chemistry 106.

257-3 Pathology. Students will be introduced to the study of the cause, course and effects of diseases upon the human body with stress on ways in which tissue changes affect the embalming process. Lecture three hours. Prerequisite: 230 and 256 or equivalent.

270-2 Computers in Funeral Service. The student will be given the opportunity to enhance their understanding of the applications of computers to the funeral profession. This course is designed to instill an appreciation for computer as an effective funeral home management tool. Lecture two hours. Prerequisite: restricted to major.

299-1 to 16 Individual Study. Provides students with opportunity to explore studies that fit a particular need or interest. Enrollment provides access to the resources of the facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Prerequisite: approval of the faculty sponsor, program representative and department chair.

302-4 Restorative Color and Cosmetics. The student will learn advanced procedure and techniques for restoration and cosmetology. Special attention will be placed upon pigments, visual aspects of color and color schemes, illumination, complexion types and materials, corrective shaping, wax and cosmetics and treatment of discoloration. Lecture three hours. Laboratory two hours. Prerequisite: 245.

340-3 Mortuary Law. Deals with the statutory laws and practices pertaining to funeral service. The student will trace the laws that govern the funeral director and the embalmer and their legal responsibilities to the consumer. Knowledge will be gained concerning the legal status of a dead human body, necessities of disposition, methods of disposition, rights and parties undertaking responsibility of disposition, custodial rights of the dead human remains, contract laws, right of disposition, control of the funeral, general rules of priority pertaining to next of kin, mental anguish, photographs, confidentiality, negligent acts by the funeral director and/or embalmer, mutilation laws, injury to invitees, injury to pallbearers, Clergy and staff, physical impact, collection against an estate, primary obligor, estate liability, cremation, authorization, commingling of remains, personal effects, storage and shipping of remains. Lecture three hours. Prerequisite: restricted to major.

350-1 to 32 Mortuary Science and Funeral Service Subjects. In-depth competency and skill development and exploration of innovative techniques and procedures used in business, industry, professions, and health service occupations offered through various workshops, special short courses, and seminars. Hours and credit to be individually arranged. Mandatory Pass/Fail. Prerequisite: recommendation by program representative and approval by department chair.

351-4 Mortuary Management. The student will examine the principles and practices of funeral home operations and management. Materials will include items that are required to operate a successful funeral home: supervision, obtaining the finances to start or purchase a business, daily fiscal operations of that business, inventory and insurance. Lecture four hours. Prerequisite: 240 and Information Management Systems 120.

352-3 Mortuary Merchandising and Marketing. Included are the funeral directors responsibilities from the first call to the completion of the last service rendered the family. Topics include after-care, pre-need, record keeping, critical issues in funeral service, and both personal and professional ethics. Lecture three hours. Prerequisite: 351.

360-4 Advanced Embalming Procedures. The student will study the proper procedures of embalming and other necessary preparations of special cases. Studies will include techniques and procedures used for embalming unique cases such as floaters, burn victims, car accident victims and other traumatic faces of death. Students will be required to submit several written research papers and present oral presentations of specific topics throughout the semester. Lecture four hours. Prerequisite: 225b.

401-3 Funeral Service Counseling. The student will be taught specific counseling procedures used when counseling the bereaved family. Specific attention will be paid to the counseling and communication techniques and skills that will assist individual family members with handling grief and the mourning process. In addition, students will explore the promotion of pre-need and after-care services. Lecture three hours. Prerequisite: 108 or Psychology 102.

410-5 Funeral Service Internship-Management. Students will be assigned to a University approved funeral home learning in actual practice situations: functional organization, procedures, and policies of the establish

ment. They will perform duties and services directly relating to the practice of funeral service as assigned by the preceptor, licensed funeral home staff, and faculty members. These duties will include surveillance of and participation in the execution of total services rendered to a family. The student will perform or assist in the performance of those other duties required for the successful operation of a funeral facility. This will be conducted under the direct supervision of a licensed funeral director. The course is 10 weeks in length. Prerequisite: all other requirements of the mortuary science and funeral service major must be met including a grade point average of at least 2.0 in major. Must be taken concurrently with 411.

411-5 Funeral Service Internship-Embalming. Students will be assigned to a University approved funeral home to be given the opportunity to learn embalming techniques by active participation in the preparation room under the direct supervision of a licensed embalmer. The student will perform or assist in the performance of those other duties required for the successful operation of a funeral facility. The course is 10 weeks in length. Prerequisite: all other requirements of the mortuary science and funeral service major must be met including a grade point average of at least 2.0 in major. Must be taken concurrently with 410.

412-2 Funeral Service Seminar. Formal discussions are held to evaluate the experiences and progress of the participants in the internship program. The second part of the seminar is a review for the National Board Examination. Mandatory Pass/Fail. Prerequisite: concurrent enrollment in 410 and 411.

415-3 On Dying and Death. Students will study the processes of death, grief, and bereavement. Emphasis on the practical aspects of coping with the many problems concerning death. Not for graduate credit.

Museum Studies (Minor)

Museum studies is available as an undergraduate interdisciplinary minor. The purpose of the minor is to introduce students to various aspects of museum work, to acquaint them with the opportunities and problems faced by museums and museum personnel, and to create career opportunities for students who might seek employment in a museum. Emphasis will be placed on actual work situations in such diverse museum functions as exhibition, curation, cataloging, acquisition, education and administration.

Minor

The museum studies minor consists of 18 hours, with 12 hours of required core courses and 6 hours of electives.

Core Courses: 12 hours selected from Anthropology 450a,b; Art 207 and 447; History 497; Political Science 446.

Electives: 6 hours selected from Anthropology 402, 404 or 460; Art 499; Political Science 441; Geology 440; History 490, 493 or 496; or courses listed above which are not used for the core.

Music (School, Major, Courses)

The requirements for entrance and for graduation as set forth in this bulletin are in accordance with the published regulations of the National Association of Schools of Music, of which this school of music is a member.

Students who wish to major in music are assumed to have acquired extensive experience in performing with school groups or as soloist, basic music reading ability, and a strong sensitivity to music and a desire to communicate it to others. Those without such a background will have to complete additional preparation, which may extend the time to graduation beyond four academic years. Music credits earned at other accredited institutions will apply toward requirements, but the transferring student remains subject to evaluation by the appropriate music faculty for proper placement in the music curriculum.

All Music majors must maintain satisfactory membership in one of the following ensembles: Music 011, 013, 014, 017, 020, 021, or 022 every term in residence. Students are exempt from this requirement during the session of student teaching. Piano performance and piano pedagogy majors may substitute Music 341 during the junior and senior years. Students who are unable to meet the major ensemble entrance requirements for one semester will be placed on probation by the School of Music. Stu

dents who are denied entrance into a major ensemble a second time will be reviewed by the undergraduate committee for possible continued probation or suspension from all music degree programs. The choice of major ensembles must be compatible with the student's applied field. Instrumental music education students must enroll in Music 011 for a minimum of one semester. Students also may elect additional large or small ensembles, not to exceed three in any one session.

Each student with a major or minor in music must designate a principal applied field and complete the credits specified within the selected specialization. Changes in the principal applied field are permissible so long as the student accumulates the required credit total and meets the required level of proficiency.

Credits in one's principal applied field are based on private lessons with a member of the faculty; weekly participation in Studio Hour and Convocations (Tuesday, at 10:00 a.m.); and recorded attendance each semester at seven campus recitals or concerts, approved for that purpose by the School of Music faculty. The student may not be a participant. Students who fail to fulfill either the Studio Hour or attendance at campus recitals or concerts requirement will receive a grade of Incomplete, which can be removed only by making up the deficiency during the ensuing semester. A student who wishes to attempt the performance specialization in applied music must have prior approval of the appropriate faculty jury, and thereafter enrolls for and receives two lessons per week for 4 credits per semester.

A student may elect private instruction in a second field or fields, but this is for one credit per semester since the studio hour and recital attendance requirements pertain only to the principal applied field.

Students not majoring or minoring in music may elect private applied music instruction if: 1) they can exhibit sufficient ability; 2) they are participating simultaneously in one of the University performing groups; and 3) faculty loads will allow. Registration is at one credit per semester, with no studio hour or recital attendance requirement. Those wishing such instruction should arrange for an interview and audition with the appropriate instructor.

Students specializing in music education should apply for admission to the Teacher Education Program as soon as they have accumulated 30 semester hours of credit. After being admitted, they must complete a series of specific requirements in order to qualify for student teaching and for the Illinois teaching certificate. Additional information is given under Education, Professional Education Experiences, and Curriculum and Instruction in this chapter.

Upper Division Examination

All Bachelor of Music degree students must pass an upper division examination in order to be admitted to the 340 level of applied music. It is normally taken before finishing 60 hours of academic study and in the second semester of Music 240. The upper division examination for transfer students is normally taken at the end of the first semester at Southern Illinois University Carbondale. The upper division examination consists of an applied music jury performance before the entire music faculty. Students will provide a complete repertoire list at the time of the jury.

Financial Information

Special grants and awards are available to students enrolled in the School of Music who are qualified and in need of financial assistance. Opportunities for employment in the student work program are excellent. In addition, there are scholarships (tuition awards) and loan programs available through the Office of Student Work and Financial Assistance.

A \$20 instrument maintenance fee is assessed every student enrolled in applied music or using a school instrument each semester. Students are responsible for purchase of their own textbooks, solo literature, and incidental supplies for music lessons and classes. Such costs normally range from \$50 to \$100 per semester.

Bachelor of Music Degree, College of Liberal Arts

<i>University Core Curriculum Requirements</i>	41
Including Music 357a as University Core Curriculum substitute	
<i>Requirements for Major in Music</i>	81
Theory: Music 104a,b; 105a,b; 204; 205; 207; 321; 322	19
History-Literature: Music 102; 357a,b	(3) + 5 ¹
Conducting: Music 316	1
Partial Recital: Music 398	1
Beginning Piano: Music 030	4 ²
Specialization	51
Total	122

MUSIC MAJOR – PERFORMANCE SPECIALIZATION, INSTRUMENTAL (STANDARD ORCHESTRAL AND BAND INSTRUMENTS)

Music 140-440, principal field, 8 semesters	28
Orchestra Major performing ensembles	6
Music 498	2
Music 461	3
Music 407, 421 or any of 470 series	6
Music 365	2
Approved music electives	4
Total	51

MUSIC MAJOR – PERFORMANCE SPECIALIZATION, GUITAR

Music 140-440, principal field, 8 semester	28
Major performing ensembles	6
Music 107	1
Music 498	2
Music 250	3
Music 407, 421, 461 or any of 470 series	6
Approved music electives	5
Total	51

MUSIC MAJOR – PERFORMANCE SPECIALIZATION, KEYBOARD (PIANO, ORGAN AND HARPSICHORD)

Music 030 not required	
Music 140-440, principal field, 8 semesters	28
Major performing ensembles	6
Music 498	2
Music 461	3
Music 407, 421, or any of 470 series	7
Music 341	3
Approved music electives	2
Total	51

MUSIC MAJOR – PERFORMANCE SPECIALIZATION, VOICE

Music 140-440, principal field, 8 semesters	28
Major performing ensembles	4
Music 498	2
Music 407, 421, 461, or any of 470 series	5
Approved foreign language, 2 semesters	8
Music 346	2
Music 363	2
Total	51

MUSIC MAJOR – PIANO PEDAGOGY SPECIALIZATION

Music 140-440, principal field, 8 semesters	16-22
Major performing ensembles	6
Music 398-1, and 498-2 or 398-2	2-3
Music 110-4, 210, 211, 310, 311, 410-4	16
Approved music electives	<u>5-11</u>
Total	51

MUSIC MAJOR – MUSIC THEORY/COMPOSITION SPECIALIZATION

Music 140-340, principal field, 6 semesters	12
Major performing ensembles	6
Music 280	4
Music 380	4
Music 480, 407, 447 or 481	6
Music 421	2
Music 470 series	6
Approved music electives, 300 level or above	<u>11</u>
Total	51

Bachelor of Music Degree, College of Liberal Arts or Bachelor of Science Degree, College of Education

MUSIC MAJOR – MUSIC EDUCATION SPECIALIZATION

<i>University Core Curriculum Requirements</i>	41
Including Mathematics 108 or higher; English 101, 102, and 121 or 204; Speech Communication 101; Psychology 102; History 110; Political Science 114; one of the following: Plant Biology 301i, 303i or Zoology 312i; one of the following: Chemistry 106, Geology 110 or Physics 101; one of the following: Anthropology 202, History 202, 210 or Sociology 215; one of the following: Plant Biology 115, 117 or Zoology 115; Health Education 101; and Music 357a as a University Core Curriculum substitute.	
<i>Requirements for Major in Music</i>	59
Theory: Music 104a,b; 105a,b; 204, 205; 207; 321, 322	19
History-Literature: Music 102, 357a,b	(3) ¹ + 5
Major performing ensembles	5
Music 140-340, principal field, 6 semesters	12
Music 398	1
Music 031	1
Music 304	2
Approved Music Electives	2
Music education specialization	12
Music 030	2
Music 032, 033, 034, 035	4
Music 305, 316, 318, 324	6
or	
Music 030	4
Music 316, 317, 325	4
Music 306 or 032-036 series	2
Music 363	2
<i>Professional Education Requirements</i>	31
See Teacher Education Program.	

Additional course required for Teacher Certification: History 101a	3	_____
Total	131	

¹University Core Curriculum substitute.
²Exceptions for Music 030 and consequent credit hour adjustment in keyboard performance, piano pedagogy and instrumental music education specialization.

Music Education Specialization Suggested Curricular Guide

FIRST YEAR			SECOND YEAR		
	FALL	SPRING		FALL	SPRING
ENGL 101, 102	3	3	Science Group 1, 2.....	3	3
MATH (any except 107 or 114)..	3	-	HIST 110.....	3	-
SPCM 101.....	-	3	POLS 114.....	-	3
MUS 104a.....	1	-	MUS 204.....	1	-
HED 101 or PE 101	-	2	MUS 207.....	-	2
MUS 105a.....	3	-	MUS 205.....	3	-
MUS 104b.....	-	1	MUS 030d or 033.....	-	1
MUS 030a.....	1	-	MUS 030c or 032.....	1	-
MUS 105b.....	-	3	MUS 035 or 363b.....	-	1
MUS 140.....	2	-	MUS 034 or 363a	1	-
MUS 030b.....	-	1	MUS 240.....	2	2
Major ensemble.....	1	1	Major Ensemble.....	1	1
MUS 140.....	-	2	EDUC 311	-	2
MUS 102.....	2	-	EDUC 310	2	-
MUS 031.....	-	1	Music Elective	-	2
Total.....	16	17	Total.....	17	17
THIRD YEAR			FOURTH YEAR		
	FALL	SPRING		FALL	SPRING
MUS 357a.....	3	-	HIST 202 or 210 or ANTH 202		
ENGL 121 or 204.....	-	3	or SOC 215	3	-
HIST 101a	3	-	EDUC 401	-	12
MUS 357b.....	-	3	PLB 301i or 303i or ZOOL 312i ..	3	-
MUS 321.....	2	-	EDUC 315	3	-
MUS 340.....	2	2	EDUC 316	2	-
Major Ensemble	1	1	EDUC 317	2	-
MUS 305 or 306.....	-	2	Major Ensemble.....	1	-
MUS 304.....	2	-	MUS 398.....	1	-
MUS 322.....	-	3	MUS 317 or 318	1	-
PSYC 102.....	3	-	MUS 324 OR 325	1	-
MUS 316.....	-	1			
EDUC 314.....	2	-			
EDUC 308	-	3			
Total.....	18	18	Total.....	17	12

Bachelor of Arts Degree, College of Liberal Arts

The Bachelor of Arts degree is individually tailored to meet the educational goals of each student pursuing it. Three areas of specialization are available: Open Studies, Music Theater, and Music Business. All specializations have a common core of 18 to 19 hours of music literature and music theory courses.

Of the 56 to 57 hours required to complete the Open Studies Specialization, the required courses are Music 357a,b, 499 and 11-16 hours of approved music electives. In addition, at least one year of foreign language is required. This can be met by one of the following: (a) passing an 8-hour 100-level sequence in one language; (b) by earning 8 hours of 100-level credit in one language by proficiency examination; or (c) completing three years of one language in high school with no grade lower than C. The 29 to 34 core of elective hours necessary to complete the degree program are selected by the student with the approval of the student's faculty sponsor and the undergraduate committee. At least 40 hours toward the B.A. Open Studies Specialization must be at the 300-400 level. This planning should be done during the first semester of the student's admittance to the School of Music with undergraduate committee approval secured no later than the end of the second semester. Changes may be made if agreed upon by the student, the undergraduate committee and the student's faculty sponsor. The B.A. degree does not provide the necessary prerequisites for graduate study in a Master of Music degree program.

Of the 55 to 56 hours required to complete the Music Business Specialization, 18 to 19 hours are in specific music courses, 14 to 15 hours in music electives, and 27 hours of accounting, economics, finance and marketing courses.

Of the 55 hours required to complete the Music Theater Specialization, 20 hours are in music, 18 hours in theater, 8 hours in a foreign language, 3 hours in science and 6 hours in physical education (dance)

Bachelor of Arts Degree, College of Liberal Arts

<i>University Core Curriculum Requirements</i>	41
Including Music 357a as University Core Curriculum substitute	
<i>Requirements for Major in Music</i>	80
Theory: Music 104a,b; 105a,b	8
Literature and History: Music 102, 357a,b	(3) + 5 ¹
Major performing ensembles	4
Applied Music 140-240, principal field, 4 semesters	7-8
Specialization (see below)	55-56
<i>Total</i>	121

MUSIC MAJOR – OPEN STUDIES SPECIALIZATION

Music 499	2
Approved Music Electives	11-16
Foreign Language	8
Elective Core	29-34
<i>Total</i>	55-56

MUSIC MAJOR – MUSIC THEATER SPECIALIZATION

Foreign Language	8
<i>Required Music Courses</i>	23
Music 204, 205	4
Music 030a,b,c	3
Music 363a,b, 364, 401, 402, 468	10
Approved Music Theater or Open History elective	3
Approved Music Electives	3
<i>Required Department of Theater Courses</i>	18
Theater 217, 303a, 317a, 403	12
Approved Electives	6
<i>Required Department of Physical Education Courses</i>	6
Physical Education 103a, 103c, 103f	
<i>Total</i>	55

MUSIC MAJOR – MUSIC BUSINESS SPECIALIZATION

Required Music Courses	
Music 030	2
Music 031A	1
Music 323 or three of the following: 032a, 032b, 033, 034, 035, 036a, 036b	3
Music 305	2
Music 174, 499	6
Music 420	1-2
Approved Music Electives	16
Required Business Courses²	
Accounting 220, 230	6
Management 304	3
Economics 240	(3) ³

Finance 280	3	
Marketing 304, 363, 401, 438	12	
Total		55-56

¹University Core Curriculum substitute.
²Up to six hours in related areas may be substituted for Required Business Courses with the approval of the undergraduate committee.
³University Core Curriculum substitute (for Economics 113).

Open Studies Specialization Suggested Curricular Guide

FIRST YEAR			SECOND YEAR		
	FALL	SPRING		FALL	SPRING
ENGL 101, 102	3	3	Science Group 1, 2.....	3	3
MATH (any except 107 or 114) ..	3	-	Foreign Language	4	4
SPCM 101.....	-	3	Social Science.....	3	3
MUS 104a,b.....	1	1	MUS 240.....	2	2
MUS 105a,b.....	3	3	Major Ensemble.....	1	1
MUS 140.....	2	2	Approved Elective Area.....	3	3
Major Ensemble	1	1			
MUS 102.....	2	-			
Health.....	-	2			
Total.....	15	15	Total.....	16	16
THIRD YEAR			FOURTH YEAR		
	FALL	SPRING		FALL	SPRING
MUS 357a.....	3	-	Integrative Studies (UCC).....	3	-
Humanities Group 1, 2.....	3	3	Interdisciplinary (UCC)	-	3
MUS 357b.....	-	3	Approved Music Elective	3	6
Major Ensemble	1	1	Major Ensemble.....	1	1
Approved Music Elective	3	3	Approved Elective Area.....	9	3
Approved Elective.....	6	6	MUS 499.....	-	2
Total.....	16	16	Total.....	16	15

Music Business Specialization Suggested Curricular Guide

FIRST YEAR			SECOND YEAR		
	FALL	SPRING		FALL	SPRING
ENGL 101, 102	3	3	Science Group 1, 2.....	3	3
MATH (any but 107 or 114).....	3	-	SPCM 101, Soc Sci	3	3
MUS 102.....	-	2	ECON 240	3	-
MUS 104a,b.....	1	1	ACCT 220, 230.....	3	3
MUS 105a,b.....	3	3	MUS 240.....	2	2
MUS 030a,b.....	1	1	MUS 032a or b	-	1
MUS 140.....	2	2	MUS 031a.....	1	-
Major Ensemble	1	1	Major Ensemble.....	1	1
MUS 174.....	-	3	Health.....	-	2
Total.....	14	16	Total.....	16	15
THIRD YEAR			FOURTH YEAR		
	FALL	SPRING		FALL	SPRING
MUS 357a.....	3	-	Integrative Studies	3	-
Humanities Group 1, 2.....	3	3	Interdisciplinary.....	-	3
MUS 357b.....	-	3	MKTG 363.....	3	-
MKTG 304.....	3	-	MKTG 438.....	-	3
MUS 034.....	-	1	MKTG 401.....	3	-
MUS 240.....	2	-	Approved Music Elective	3	5
MGMT 304.....	-	3	Major Ensemble.....	1	1
Major Ensemble	1	1	MUS 499.....	-	3
MUS 033.....	1	-	MUS 035.....	1	-
MUS 316.....	-	1	MUS 036.....	-	1
Approved Music Elective	3	3	MUS 420.....	1	-
MUS 306.....	-	2			
Total.....	16	17	Total.....	15	16

Minor

The minor in music includes Music 102, 030a,b, 104a,b, 105a,b, 357a,b; two semesters of performing ensembles, two hours; and two semesters of 040 or 140, four hours for a total of 24 credits. Students must comply with the studio hour and recital requirements listed above. Students who wish to pursue the minor curriculum must make a declaration of their intent at the Music Advisement Office before registering for classes.

Courses (MUS)

011-1 to 8 (1 or 2, 1 or 2, 1 or 2) Marching Salukis. Fall semester only. Open to all students with experience in bands. Performs at all home football games, and one or two away. Counts as a major ensemble, one of which must be taken each semester by resident music majors.

012-1 to 4 (1,1,1,1) Pep Band. A select group which performs at all home basketball games. Prerequisite: audition prior to first registration.

013-1 to 16 (1 or 2 per semester) Symphonic Band. [IAI Major Course: MUS 908] Open to all students with experience in bands. Performs standard literature. Two or three concerts per year. Counts as major ensemble, one of which must be taken each semester by resident music majors.

014-1 to 16 (1 or 2 per semester) Concert Wind Ensemble. [IAI Major Course: MUS 908] A select group which performs advanced contemporary literature. Three concerts and tour per year. Counts as a major ensemble, one of which must be taken each semester by resident music majors. Prerequisite: audition prior to first registration.

015-1 to 16 (1 or 2 per semester) Jazz Ensemble. For students experienced with popular literature. Concerts and tours when feasible. Prerequisite: audition prior to first registration.

016-1 to 8 (1,1,1,1,1,1,1,1) Jazz Combos. A select group, performing literature scored for this instrumentation. Two or three concerts per year and tour as feasible. Prerequisite: audition prior to first registration.

017-1 to 16 (1 or 2 per semester) Symphony. [IAI Major Course: MUS 908] Open to all experienced string, woodwind, brass, and percussion players. Plays standard and advanced orchestral literature, performs three or four concerts per year. Counts as a major ensemble, one of which must be taken each semester by resident music majors. Prerequisite: audition prior to first registration.

020-1 to 8 (1,1,1,1,1,1,1,1) Choral Union. [IAI Major Course: MUS 908] Open to qualified students who desire to perform major choral-orchestral literature. Two concerts per year. Counts as a major ensemble, one of which must be taken each semester by resident music majors. Audition required.

021-1 to 16 (1 or 2 per semester) Chamber Choir. Open to all experienced singers. Emphasis on advanced contemporary literature. Three or four concerts per year and tours as feasible. Audition required.

022-1 to 16 (1 or 2 per semester) Concert Choir. [IAI Major Course: MUS 908] A select group which performs advanced choral literature of all eras. Three or four concerts per year and tours as feasible. Counts as a major ensemble, one of which must be taken each semester by resident music majors. Prerequisite: audition prior to first registration, and each succeeding fall.

023-1 to 8 (1,1,1,1,1,1,1,1) Vocal Jazz Ensemble. Open to all experienced singers. Emphasis on light, popular literature. Two or three appearances per year.

030-4 (1,1,1,1) Piano Class. [IAI Major Course: MUS 906] (a) Level 1; (b) Level 2; (c) Level 3; (d) Level 4. Designed to develop functional command of basic keyboard skills needed in the further study of music and the teaching of music. Take in sequence unless assigned advanced placement by instructor. Prerequisite: major or minor in music, elementary education, early childhood education, or consent of instructor.

031a-1 Voice Class. Designed to develop functional command of basic vocal skills needed in teaching music. Prerequisite: consent of instructor.

032-2 (1,1) String Techniques Class. (a) Upper strings; (b) lower strings. Designed to develop essential techniques and principles which can be used in teaching young string pupils. Prerequisite: music major or minor.

033-4 (1,1,1,1) Woodwind Techniques Class. Flute, clarinet, oboe, bassoon. Designed to develop essential techniques and principles which can be used in teaching young woodwind pupils. Students may begin on one instrument and shift to another at midterm, or they may continue with the same instrument with the consent of the instructor. Prerequisite: music major or minor or consent of instructor.

034-2 (1,1) Brass Techniques Class. Trumpet, French horn, trombone, tuba. Designed to develop essential techniques and principles which can be employed in teaching beginning brass pupils. Students may begin with one instrument and shift to another at midterm or they may continue with the same instrument with the consent of the instructor. Prerequisite: music major or minor.

035-1 Percussion Techniques Class. Designed to develop basic techniques and principles which can be employed in teaching young percussion pupils. Prerequisite: music major or minor.

036-2 (1,1) Guitar Class. (a) Level 1, (b) level 2. Designed to develop basic techniques and principles which can be employed in teaching music. Prerequisite: major or minor in music, elementary education, or early childhood education, or consent of instructor.

040, 140, 240, 340, 440, 540-1, 2 or 4 Applied Music. Offered at six levels in the areas listed below. May be repeated for credit as long as passing grade is maintained. Students must attend the weekly studio class and be concurrently enrolled in one of the performing groups. Prerequisite for 040: satisfactory completion of beginning class instruction offered in that area, or the equivalent. Prerequisite: for 140: three or more years of prior study or performing experience, or two semesters of C or better at 040 level. Prerequisite: for 240, 340: two semesters of C or better at previous level, or consent of applied jury. Prerequisite: for 440, 540: two semesters of B or better at previous level, or consent of applied jury. Music majors and minors enroll for two credits on their principal instrument, taking one half-hour private lesson and studio class, Tuesdays at 10:00. Those with prior approval by their applied jury for the specialization in performance enroll for four credits, taking two half-hour private lessons and the student class each week. Non-music majors or minors, and those music majors taking a second instrument, enroll for one credit, taking one private or class lesson per week. Six hours of individual practice per week required for each lesson. For shorter sessions, credit is reduced or lesson time is increased proportionately.

- | | | | | |
|--------------|-------------|----------------|----------------|-------------|
| a. Flute | f. Horn | k. Percussion | p. Voice | u. Recorder |
| b. Oboe | g. Trumpet | l. Violin | q. Piano | v. Coaching |
| c. Clarinet | h. Trombone | m. Viola | r. Organ | |
| d. Bassoon | i. Baritone | n. Cello | s. Harpsichord | |
| e. Saxophone | j. Tuba | o. String bass | t. Guitar | |

101-3 Music Fundamentals. Rudiments of music for those with little or no musical background. One lecture and one piano laboratory session per week. Provides basic music vocabulary and keyboard competency for Curriculum and Instruction 325, 326.

102-2 Survey of Music Literature. [IAI Course: F1 901 and MUS 905] Characteristic forms and styles. Analysis and listening. Examples from the leading composers of each era. Prerequisite: music major or minor.

103-3 Music Understanding. (University Core Curriculum) [IAI Course: F1 900] A study of the historical development of Western Music and the listening skills necessary to perceive the expressive aspects of each style.

104-2 (1,1) Aural Skills. [IAI Major Course: MUS 907] A laboratory course designed to complement 105a and b. Practice in recognition and singing of basic pitch and rhythm materials, and their realization in standard musical notation. For those planning a major or minor in music, take a and b in sequence, or, with prior consent of instructor, concurrently.

105-6 (3,3) Basic Harmony. [IAI Major Course: MUS 901, 902] Study of traditional diatonic tonal materials and standard notational practice. Includes keyboard skills. For those with performing experience and planning a major or minor in music. Take a and b in sequence. Prerequisite: concurrent registration in 104 or equivalent aural skill.

107-1 Applied Harmony for Fretted Instruments. Application of basic harmonic functions to the fretted instruments including guitar. Prerequisite: concurrent enrollment in 140 or 540 or consent of instructor.

110-4 (2,2) Introduction to Piano Pedagogy. Introduction to a broad range of studies that influence the development of effective piano teaching. Seminar discussions, lectures, observation of piano teaching, piano studies, readings, listening projects and written essays deal with the history of piano pedagogy and performance, studies of teaching and learning concepts of music education and educational psychology, piano literature, keyboard musicianship and practical aspects of teaching.

140-1, 2, or 4 Applied Music. [IAI Major Course: MUS 909] (See 040.)

174-3 Commercial Music. Introductory course for students interested in the commercial aspects of the music industry. Lectures given by outstanding executives and performers in the various segments of the industry such as management, cash show, contracts, the recording of music and video, and publishing. Students go to Nashville, Tennessee, where various activities take place, including tours of recording studios, publishing houses, performance rights societies, and video and television studios. Designed to clarify the qualifications the student must have, or develop, in order to be successful in the commercial music world. Prerequisite: major in music.

203-3 Diversity and Popular Music in American Culture. (University Core Curriculum) [IAI Major Course: F1 905D] A study of the development of American popular music, particularly in relation to the different cultural groups which spawned it.

204-1 Advanced Aural Skills. [IAI Major Course: MUS 907] Continuation of 104. Designed to complement 205. Prerequisite: 104b with a grade of C or better.

205-3 Advanced Harmony. [IAI Major Course: MUS 903] Study of chromatic tonal materials, including keyboard skills. Prerequisite: 104b and 105b with a grade of C or better, and concurrent registration in 204.

207-2 Contrapuntal Techniques. Basic contrapuntal principles and skills, especially as applied to 18th and 19th century styles. Extensive writing practice, and analysis of stylistic models. Introduction to major contrapuntal forms. Prerequisite: 204 and 205 with a grade of C or better, or take 204 concurrently.

210-2 Analytic Techniques for the Pianist. Studies the process by which piano teachers analyze piano music and performance. Extensive projects in piano music analysis, sight-reading, interpreting and memorizing piano compositions, lecture/discussions, reading and listening assignments and observation of studio and piano class teaching provide increasing readiness for piano teaching as it relies on analytic and problem-solving techniques.

211-2 Piano Literature Seminar. A survey course that acquaints students with piano music for teaching at all levels of advancement from baroque, classical, romantic and contemporary music style periods. Piano literature, sight-reading, recorded music listening assignments, score study, writing assignments and lecture/performance presentations in class include studies of piano methods, piano music editions, collections and publishers highlighting the keyboard literature of sixteen major composers.

240-1, 2, or 4 Applied Music. [IAI Major Course: MUS 909] (See 040.)

250-3 The History and Literature of the Guitar and Related Fretted Instruments. A survey of the history and literature of the guitar and related fretted instruments from the Renaissance to the present with emphasis on interpretation.

257-1 to 12 Intern-Work Experience. Practical experience in music retailing, wholesaling, and publishing under the supervision of professional firms. Open only to candidates for the Bachelor of Arts degree with emphasis in music business.

280-2 to 4 (2,2) Beginning Composition. Application of contemporary compositional techniques. Prerequisite: 105b or consent of instructor.

304-2 The General Music Program. Survey of problems and methods in teaching music in the schools, with scheduled observations of school music programs in operation. Special attention given to the teaching of comprehensive musicianship through the general music program in the junior and senior high school. Also

includes undergraduate history and philosophy of music education. Prerequisite: admission to the Teacher Education Program.

305-2 Instrumental Music in the Schools. Administration of the school instrumental music program. Emphasis upon teaching instruments and the management and instruction of instrumental organizations.

306-2 Music Specialist in the Elementary Schools. Principles and methods employed in supervising and teaching the elementary school music program. Designed for music majors and minors. Prerequisite: 304.

307-2 Computers and Music. An introduction to essential computer tools for musicians. Topics covered will include music notation software, searching the Internet for musical resources, and midi keyboard basics. Prerequisite 102, 104b, 105b.

310-2 Piano Technique Seminar. An exhaustive study of three classics on the subject of piano technique by authors Reginald Gerig, Paul Roes and Abby Whiteside. This historical perspective is practically applied in a weekly routine of technical and theoretical studies at the piano. The course provides a foundation from which to deal with all aspects of piano technique development in teaching.

311-2 Advanced Piano Literature Seminar. In-depth study of an extensive catalogue of piano works for specific selection and design of a sequential curriculum of piano literature for teaching. Piano literature sight-reading, recorded music listening assignments and score study culminate in a final course project that details specific piano works for teaching baroque, classical, romantic and contemporary literature to students of elementary, intermediate and advanced abilities. Prerequisite: 211.

316-1 Introduction to Conducting. An introductory conducting course designed to teaching beginning rehearsal techniques. Prerequisite: music major or minor and junior standing.

317-2 Choral Conducting and Methods. Score reading, baton techniques, and rehearsal techniques, organization and management problems of school choral groups. Prerequisite: music major or minor and junior standing.

318-2 Instrumental Conducting. Score reading, baton techniques, and rehearsal management. Supervised application in ensemble. Prerequisite: music major or minor and junior standing.

321-2 Form and Analysis. Comprehensive study of harmonic and formal structures and typical stylistic traits of 18th and 19th century music. Prerequisite: 204 and 207.

322-3 Principles of 20th Century Music. Comprehensive study of harmonic techniques and other stylistic traits of major 20th century idioms. Prerequisite: 321.

323-3 Instrumentation. A study of musical instruments history, construction, major manufacturers, cost, accessories, conventional ranges, transposition, traditional and expanded performance techniques, problems/idiosyncracies, performance roles, commercial/recording applications and sources for more information.

324-1 Instrumental Arranging. Practice in scoring of transcriptions, arrangements, and original compositions for standard instrumental groups. Prerequisite: 205.

325-1 Choral Arranging. Practice in scoring arrangements and/or original compositions for choral groups. Prerequisite: 205.

331-1 Jazz Improvisation. Ear training, phrasing in extemporaneous playing, use of chord symbols and chord progressions, special effects peculiar to jazz playing and styles of playing. Prerequisite: consent of instructor.

340-1, 2 or 4 Applied Music. [IAI Major Course: MUS 909] (See 040.)

341-1 to 8 (1 or 2 per semester) Accompanying Laboratory. Experience, under supervision, in accompanying soloists and groups. Counts as a major ensemble for junior and senior music majors specializing in keyboard performance and piano pedagogy only.

357-6 (3,3) Music History. [IAI Course: F1 901] Study of musical examples and techniques evolving from the ancient period to the present. May take a or b in either order. Prerequisite: 102 with a grade of C or better and junior standing. Satisfies the College of Liberal Arts Writing Across-the-Curriculum requirement for music majors.

363-2 (1,1) Pronunciation and Diction for Singers. (a) English and French, (b) German and Italian. Establishment of proper pronunciation as applied to vocal literature. Prerequisite: one or more semesters of private or class voice instruction.

364-2 The Alexander Technique of Body Control. A controlled discipline to counteract tension habits that are harmful to correct use of the body, particularly as they relate to music, speech, dance, and theater.

365-1 to 64 (1 per section) Chamber Music. Groups of two to sixteen performers as organized and sponsored by individual faculty members. Includes duo-piano teams, and piano in combination with other performers. Regular weekly rehearsals of appropriate music and public performance as feasible. Section (g) counts as a major ensemble for music majors specializing in guitar and for juniors and seniors with non-performance specializations whose principal instrument is the guitar: (a) Chamber music-vocal; (b) Chamber music-string; (c) Chamber music-woodwind; (d) Chamber music-brass; (e) Chamber music-percussion; (f) Chamber music-keyboard; (g) Chamber music-classical guitar; (h) Chamber music-20th century. Instrumentalists and singers experiment with new musical techniques and styles. Small ensembles and/or one large ensemble will rehearse weekly.

375-3 Introduction to Recording Engineering. Specializes in recording and engineering. Intended to be a general introduction to the world of multi-track recording. Seventy percent of the course involved with basic information about sound, test equipment, microphones, recorders, signal processing equipment, consoles, noise reduction devices, and the most recent developments in the perception of sound. Thirty percent consists of actual live recording sessions and mix-down sessions. Each student given hands-on experience in recording and mixing and will receive a copy of the master tape. Enrollment limited. Preference given to music majors. Prerequisite: junior music major.

- 376-3 Advanced Recording Engineering.** Continues the skills developed in 375. Student familiarized with duties of the professional engineer through practical experience.
- 380-2 to 4 (2,2) Composition.** Original composition in a contemporary language, intermediate in scope and form. Individual instruction and weekly seminar. Prerequisite: 280 or consent of instructor.
- 398-1 to 2 (1,1) Partial Recital.** Preparation and presentation of a partial recital in any applied field. Prerequisite: prior or concurrent registration in 340 and approval of applied jury.
- 400-1 to 2 (1,1) Performance Techniques.** Individual instruction in any secondary applied field. Designed to provide added depth of preparation for teaching instrumental and vocal music. Prerequisite: completion of 340 level or the equivalent in some field of applied music.
- 401-1 to 12 (1 to 2 per semester) Opera Workshop.** Open to all appropriately experienced singers, actors, dancers, instrumentalists and theater technicians. Study of opera/opera repertoire and performance techniques. Prerequisite: consent of the instructor.
- 402-1 to 12 (1 to 2 per semester) Musical Theater Workshop.** Open to all appropriately experienced actors, singers, dancers, instrumentalists and theater technicians. Study of musical theater/musical revue repertoire and performance techniques. Prerequisite: consent of the instructor.
- 403-1 to 2 Lyric Theater Ensemble.** A select group which performs operatic or musical theater literature, usually in the form of a fully mounted production each semester. May be repeated for credit. Prerequisite: audition or consent of instructor.
- 407-2 Modal Counterpoint.** Study of Renaissance contrapuntal techniques. Extensive writing practice, and analysis of stylistic models. Prerequisite: 207.
- 410-2 Piano Pedagogy Practicum.** Provides undergraduate and graduate piano pedagogy majors with the opportunity for supervised practice piano teaching. Course activities include lesson-planning, conducting and evaluating studio piano and class piano lessons, and a survey of important educational issues that impact on effective piano teaching. Prerequisite: consent of instructor.
- 420-1 to 2 (1,1) Instrument Repair.** A shop-laboratory course dealing with the selection, tuning, adjustment, maintenance, and repair of musical instruments. Prerequisite: two semesters of instrumental techniques courses or consent of instructor.
- 421-2 Advanced Analysis.** Structure, form, and design in music as the coherent organization of all of its factors. Analysis of works chosen from a variety of styles and genres. Prerequisite: 321.
- 440-1, 2, or 4 Applied Music.** [IAI Major Course: MUS 909] (See 040.)
- 447-4 (2,2) Electronic Music.** (a) Introduction to classical studio equipment and techniques; use of voltage controlled equipment. Individual laboratory experience available. (b) Emphasis upon creative projects, more sophisticated sound experimentation, and analysis. Enrollment limited. Must be taken in a,b sequence. Prerequisite: 280 or consent of instructor.
- 453-2 to 4 (2 per semester) Advanced Topics in Choral Music.** Practicum in the selection, rehearsal, and performance of appropriate literature. Study of techniques for achieving proficient performance and musical growth. For experienced teachers and advanced students.
- 454-2 to 4 (2 per semester) Advanced Topics in Instrumental Music.** Practicum in the selection, rehearsal, and performance of appropriate literature. Study of techniques for achieving proficient performance and musical growth. Designed for experienced teachers and advanced students.
- 455-2 to 4 (2 per semester) Advanced Topics in Elementary School Music.** Practicum in the selection and use of materials for the elementary school program. Study of techniques for achieving balanced musical growth. For experienced teachers and advanced students.
- 456-4 (2,2) Music for Exceptional Children.** (a) Theories and techniques for therapeutic and recreational use of music with physically and mentally handicapped children. Includes keyboard, autoharp, guitar, and tuned and untuned classroom instruments. (b) Applications for the gifted, emotionally disturbed, and culturally disadvantaged child. Take in sequence. Prerequisite: 302 or prior consent of instructor.
- 461-3 Applied Music Pedagogy.** Specialized problems and techniques employed in studio teaching of any particular field of music performance. Study of music literature appropriate for the various levels of performance. Opportunity, as feasible, for supervised instruction of pupils. Meets with appropriate instructor, individually or in groups.
- 468-2 to 4 (2,2) Music Productions.** Practicum in the techniques for staging operas and musicals.
- 470-3 History of Opera.** The development of the music, libretti and staging of opera from the late Renaissance to the present. Prerequisite: 357b, or consent of instructor.
- 471-3 History of Musical Theater.** The development of the music, book, lyrics and staging practices of musical theater from its late 19th Century beginnings to present, with a detailed study of selected contributors and their works. Prerequisite: 357b or consent of instructor.
- 472-2 Chamber Music Literature.** A study of literature for the principal types of chamber music groups.
- 475-3 Baroque Music.** The development of vocal and instrumental music in the period 1600-1750, from Monteverdi to Bach and Handel. Oratorio and Cantata, the influence of opera, sonata, suite, and concerto. Prerequisite: 357a with a grade of C or better, or graduate standing.
- 476-3 Classical Music.** Development of the sonata, symphony, concerto, and chamber music in the 18th and early 19th centuries, with emphasis on the music of Haydn, Mozart, and Beethoven. Prerequisite: 357b with a grade of C or better, or graduate standing.
- 477-3 Romantic Music.** Development of the symphony and sonata forms, chamber music, and vocal music in the 19th and early 20th centuries. Rise of nationalism and impressionism. Prerequisite: 357b with a grade of C or better, or graduate standing.

479-2 to 4 (2 per topic) Solo Performance Literature. Topics presented will depend upon the needs of students and upon instructors scheduled. (a) Piano literature, including an introductory study of harpsichord music; (b) organ literature, in relation to the history of the instrument; (c) song literature; (d) guitar and lute literature; (e) solo string literature; (f) solo wind literature.

480-2 to 4 (2, 2) Advanced Composition. Original composition involving the larger media. Individual instruction. Prerequisite: two semesters of 380 with a grade of C or better and approval of composition jury.

481-1 to 4 Readings in Music Theory. Assigned readings and reporting of materials pertaining to a particular phase of music theory in historical perspective. Approximately three hours' preparation per week per credit (adjusted for shorter sessions). Prerequisite: 321 and 322 or prior consent of instructor.

482-1 to 4 Readings in Music History and Literature. Assigned readings and reporting of materials pertaining to a particular phase of history or literature. Approximately three hours preparation per week per credit. Prerequisite: 357a and b, or prior consent of instructor.

483-1 to 4 Readings in Music Education. Assigned readings and reporting of materials pertaining to a particular phase of music education. Approximately three hours preparation per week per credit (adjusted for shorter sessions). Prerequisite: consent of instructor.

498-2 to 4 (2,2) Recital. Preparation and presentation of a full solo recital in any applied field. Prerequisite: prior or concurrent registration in 440 and approval of applied jury.

499-1 to 8 Independent Study. Original investigation of selected problems in music and music education with faculty guidance. Project planned to occupy approximately three hours preparation per week per credit (adjusted for shorter sessions). Not more than three hours toward 30 required for graduate degree. Prerequisite: prior consent of selected instructor.

Music Faculty

Allison, Robert, Associate Professor, D.M.A., University of Illinois, 1988.

Almany, Travis, Assistant Professor, M.M., University of Illinois, 1997.

Barta, Michael, Professor, M.M., Franz Liszt Academy of Music (Hungary), 1977.

Barwick, Steven, Professor, *Emeritus*, Ph.D., Harvard University, 1949.

Bateman, Marianne Webb, Professor, M.Mus., University of Michigan, 1959.

Beattie, Donald, Associate Professor, M.Mus., University of Colorado, 1977.

Benyas, Edward, Assistant Professor, M.M., Northwestern University, 1994.

Best, Richard, Professor, Northwestern University.

Bottje, Will Gay, Professor, *Emeritus*, D.M.A., Eastman School of Music, 1955.

Breznikar, Joseph, Professor, M.Mus., University of Akron, 1977.

Brown, Philip, Associate Professor, M.M.E., University of North Texas, 1983.

Delphin, Wilfred, Professor, D.M.A., University of Southern Mississippi, 1976.

Fink, Timothy, Assistant Professor, M.F.A., Southern Illinois University Carbondale.

Fligel, Charles, Associate Professor, M.M., University of Kentucky, 1966.

Ginther, Kathleen, Lecturer, D.M.A., Northwestern University, 1996.

Grizzell, Mary Jane, Assistant Professor, *Emerita*, M.Mus., Eastman School of Music, 1943.

Hanes, Michael, Professor, M.M.E., Southern Illinois University, 1965.

Hartline, Elisabeth, Assistant Professor, *Emerita*, M.Mus. Northwestern University, 1936.

Hickey, Katherine, Assistant Professor, D.M.A., University Southern California, 1995.

House, Mary Elaine Wallace, Professor, *Emerita*, M.Mus., University of Illinois, 1954.

Hunt, C. B., Jr., Professor, *Emeritus*, Ph.D., University of California, Los Angeles, 1949.

Hussey, George, Professor, *Emeritus*, M.A.Ed., Washington University, 1963.

Johnson, Maria, Assistant Professor, Ph.D., University of California, 1992.

Lord, Suzanne, Assistant Professor, D.M.A., Louisiana State University, 1996.

Mandat, Eric P., Professor, D.M.A., Eastman School of Music, 1986.

McHugh, Catherine, Professor, *Emerita*, Ed.D., Columbia University, 1959.

Mellado, Daniel, Associate Professor, Ph.D., Michigan State University, 1979.

Mochnick, John, Associate Professor, D.M.A., University of Cincinnati, 1978.

Mueller, Robert, Professor, *Emeritus*, Ph.D., Indiana University, 1954.

Olsson, Phillip, Professor, *Emeritus*, M.Mus., Chicago Conservatory, 1949.

Park, Sook Ryeon, Assistant Professor, D.M.A., Eastman School of Music, 1993.

Phillips, Dan, Associate Professor, M.M., University of Notre Dame, 1979.

Poulos, Helen, Associate Professor, *Emerita*, D.M., Indiana University, 1971.

Resnick, Robert, Professor, *Emeritus*, M.Mus., Wichita State University, 1949.

Romersa, Henry, Visiting Associate Professor, M.M.Ed., Oberlin College, 1955.

Roubos, Robert, Professor, D.M.A., University of Michigan, 1966.

Simmons, Margaret, Associate Professor, M.M., University of Illinois, 1976.

Stemper, Frank, Professor, Ph.D., University of California, 1981.

Taylor, Charles, Associate Professor, *Emeritus*, Ed.D., Columbia University, 1950.

Underwood, Jervis, Professor, *Emeritus*, Ph.D., North Texas State University, 1970.

Wagner, Jeanine, Associate Professor, D.M.A., University of Illinois, 1987.

Weiss, Robert L., Jr., Professor and Director,
Ph.D., Southern Illinois University, 1984.

Werner, Kent, Associate Professor, Emeritus,
Ph.D., University of Iowa, 1966.

Nursing (Professional Program)

The School of Nursing of Southern Illinois University at Edwardsville offers a program of study leading to a Bachelor of Science degree in nursing. The program is accredited by the National League of Nursing. The curriculum is designed to prepare qualified individuals to function competently as beginning professional nurse practitioners; to participate in providing a broad scope of health care in a variety of settings and to obtain a foundation for continued professional growth and graduate education. Professional nursing practice is broad in scope and serves individuals in a multiplicity of settings; thus the professional nurse functions in both traditional and non-traditional situations which may require innovative as well as conventional patterns of practice.

The following curriculum is based on the requirements of SIUE's School of Nursing. The Pre-Nursing program can be accelerated to a three-semester sequence of prerequisite courses by students who have a strong academic preparation in appropriate subject areas. Students interested in other nursing schools are encouraged to meet with the nursing advisor as soon as they come to campus.

Nursing Specialization Suggested Curriculum Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
ENGL 101, 102*	3	3	PHIL 201, 208*	4	-
CHEM 140a,b*	4	4	MICR 301*, PHSL 301*	4	4
Select ¹ *	3	3	Select ³	3	-
SPCM 101*	3	-	Select ⁴	-	3
Select ²	3	-	Select ⁵	3	-
PHIL 104	-	3	PHIL 105	-	3
HED 311*	-	3	Select	-	3-6
<i>Total</i>	16	16	<i>Total</i>	14	13-16

¹ Choose two introductory Social Science courses from: Anthropology 104, Economics 241, Geography 103, History 101a, Psychology 102, Sociology 108.

² Choose one introductory Humanities course from: Art and Design 101, English 205, Music 103, Philosophy 102, Theater 101.

³ Choose one advanced Social Science course from: Anthropology 202, Black American Studies 215, History 202, Sociology 215, Women's Studies 201.

⁴ Choose one advanced Social Science course from: History 101b, 110, 300, 301, Political Science 114, Sociology 304i, or a 300-level Psychology course.

⁵ Choose one advanced Humanities course from: Cinema and Photography 101, English 121, 203, Foreign Language and Literature 230, Philosophy 211.

Courses identified as Prerequisite (*) must each be completed with a grade of C or above. All prerequisite courses must be completed with an average of 2.7 in these courses to be considered for admission to SIUE School of Nursing. (Admission to SIUE does not guarantee acceptance to the School of Nursing.) Other courses listed here represent degree requirements for the SIUE Bachelor of Science in Nursing. Students should contact the nursing advisor in the Pre-Major Advisement Center in Woody Hall C-117 for further curricular information and for information concerning application to SIUE School of Nursing. SIUE School of Nursing admits qualified applicants to both Fall and Spring semesters. At least five semesters at SIUE are required for completing the bachelor degree in Nursing.

Office Systems and Specialties (Major, Courses)

Recent developments in office systems and related technologies have resulted in many new career opportunities for administrative personnel with enhanced general office skills or specific training in the medical, legal, or court reporting fields. Both

men and women have opportunities for rewarding business careers in office support positions in these areas. A major in Office Systems and Specialties may lead to an Associate in Applied Science Degree and prepares a student for an exciting career by offering a combination of courses designed to improve keyboarding skills, computer literacy, English language usage, and document production techniques.

Each student selects one of four areas of specialization: Administrative Assistant, Legal Office Assistant, Medical Office Assistant, or Court and Conference Reporting. In each of these four areas, specialized courses are required which enhance the student's office skills and introduce the student to specialized vocabulary.

A student selecting the Administrative Assistant specialization will take business correspondence, desktop publishing, and supervision and management. For a student more interested in an office support position as a legal office assistant, courses in applied law, legal document preparation and legal terminology, and supervision and management are offered. Medical terminology, business correspondence, and supervision and management are some of the courses required of students in the Medical Office Assistant Specialization. Students choosing the Court and Conference Reporting Specialization follow a five-semester regime which includes legal and medical terminology, machine shorthand, two-voice and four-voice dictation and transcription, and applied law.

All students in Office Systems and Specialties are required to complete either a one-semester cooperative office internship (at least four credit hours) or a court reporting internship which involves the verification of at least forty clock-hours of actual writing time on the shorthand machine. Students in both of these learning situations are closely supervised by faculty.

A student majoring in Office Systems and Specialties may, in addition to taking regularly scheduled courses, transfer credits from an accredited post secondary school (such as a community college); pass a proficiency examination; or receive credit for significant office-related experience.

Students entering the Court Reporting specialization must be able to type thirty words per minute. In addition, good language skills are important. Court and Conference Reporting may be pursued within the associate degree program or as a post-associate offering for those who have completed an associate degree in a related field at a community college or other post-secondary institution.

The Court and Conference Reporting specialization has signed a number of "Program Articulation Agreements" with legal/office-related community college degree programs in order to facilitate the transfer of community college students to SIUC. The colleges with which SIUC has signed such an agreement include: Belleville Area College (IL), Shawnee Community College (IL), John A. Logan College (IL), Rend Lake College (IL), Kaskaskia College (IL), Southeastern Illinois College (IL) and Lewis and Clark Community College (IL). Agreements with other schools are pending. If you have questions about how these agreements apply to your personal situation, contact the school's program representative or contact the department's academic advisor at (618) 453-7200 or <<http://www.siu.edu/~imsasa/>>.

Many courses will require students to purchase consumable supplies for use in those courses. In addition to these materials, students enrolled in court reporting are required to supply their own shorthand machine with realtime capabilities.

Associate in Applied Science Degree, College of Applied Sciences and Arts

Requirements for Office Systems and Specialties Major with Specializations in Administrative Assistant, Legal Office Assistant and Medical Office Assistant

English 101	3
Speech Communication 101.....	3

Information Systems Technologies 109, 140, 141, 142, 205, 208, 209, 232, 307	24
Information Management Systems 120, 220	6
Electronics Management 224	3
Office Systems and Specialties 111, 112, 113, 290	13
Specialization Requirements for Administrative Assistant, Legal Office Assistant, Medical Office Assistant (See below).....	12
Total	64

Administrative Assistant Specialization Requirements

Information Systems Technologies 240	3
Office Systems and Specialties 101	3
Philosophy 104 or 105	3
One from Psychology 102, Economics 113, or Sociology 108	3
Total.....	12

Legal Assistant Specialization Requirements

Office Systems and Specialties 182, 220	6
Two from Psychology 102, Economics 113, or Sociology 108	6
Total.....	12

Medical Assistant Specialization Requirements

Office Systems and Specialties 101, 261	6
Philosophy 104 or 105	3
One from Psychology 102, Economics 113, or Sociology 108	3
Total.....	12

Associate in Applied Science Degree, College of Applied Sciences and Arts

Requirements for Office Systems and Specialties Major with a Specialization in Court and Conference Reporting ¹

English 101, 102	6
Office Systems and Specialties 101, 112, 113, 180, 182, 186, 187, 188, 261, 281, 282, 283, 284, 285, 288, 289, 385 ² , 386 ³ , 389 ⁴	57
Information Systems Technologies 208	3
Health Care Professions 241	4
Total	70

¹ Includes requirement of two five-minute timed writings at 60 gross words per minute typing speed with a maximum of five errors (Office Systems and Specialties 113 or 114 will fulfill this requirement).
² Includes requirement of passing three five-minute dictation tests with 95% accuracy at 225 wpm using a two-voice question and answer format (Office Systems and Specialties 385 will fulfill this requirement—a grade of C or better is required).
³ Includes requirement of passing three five-minute jury charge/legal dictation tests with 95% accuracy at 200 wpm and three five-minute literary dictation tests with 95% accuracy at 200 wpm (Office Systems and Specialties 386 will fulfill this requirement—a grade of C or better is required).
⁴ Internship includes requirement of 40 hours of verified writing time on a shorthand machine, a 40-page usable transcript, and transcription of simulated RPR skills test (Office Systems and Specialties 389 will fulfill this requirement—a grade of C or better is required).

Administrative Assistant Specialization Suggested Curricular Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
IST 109, IMS 120.....	3	3	IST 205, 220	3	3
IST 140,141	2	2	IST 240, 232	3	3
IST 208, IST 142	3	2	IST 307	-	3
IST 209, OSS 101.....	3	3	OSS 113, 290	3	4
OSS 111,112	3	3	ELM 224	-	3
ENGL 101	3	-	PHIL 104 or 105.....	3	-
SPCM 101.....	-	3	ECON 113, PSYC 102, or SOC 108	3	-
Total.....	17	16	Total.....	15	16

Legal Office Assistant Specialization Suggested Curricular Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
IMS 120.....	3	-	IST 205, IMS 220	3	3
IST 109.....	3	-	IST 208	3	-
IST 140,141	2	2	IST 232	-	3
IST 209, IST 142	3	2	IST 307	-	3
OSS 111,112.....	3	3	OSS 113.....	3	-
OSS 182.....	-	3	OSS 220, 290	3	4
ENGL 101.....	3	-	ELM 224	-	3
PSYC 102, ECON 113 or SOC 108.....	-	6	SPCM 101	3	-
Total.....	17	16	Total	15	16

Medical Office Assistant Specialization Suggested Curricular Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
IMS 120.....	3	-	IST 205, IMS 220	3	3
IST 109.....	3	-	IST 208	3	-
IST 140,141	2	2	IST 232	-	3
IST 142.....	-	2	IST 307	-	3
IST 209, OSS 101.....	3	3	OSS 113.....	3	-
OSS 111,112.....	3	3	OSS 261.....	3	-
ENGL 101, SPCM 101.....	3	3	OSS 290.....	-	4
ECON 113, PSYC 102 or SOC 108.....	-	3	ELM 224	-	3
Total.....	17	16	Total	15	16

Court and Conference Reporting Specialization Suggested Curricular Guide¹

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
OSS 112,113.....	3	3	OSS 285,101.....	3	3
OSS 180.....	1	-	OSS 283.....	3	-
OSS 182.....	-	3	OSS 284.....	3	-
OSS 186, 187.....	4	4	OSS 289,288.....	3	3
OSS 188.....	-	3	OSS 385.....	-	3
OSS 261.....	3	-	OSS 386.....	-	3
ENGL 101,102.....	3	3	OSS 389.....	-	3
Total.....	14	16	Total	16	15

¹A summer session of nine hours to include IST 208, OSS 281 and 282 is also part of the curriculum. If summer courses are unavailable, another semester will be required due to course sequencing.

Courses (OSS)

100-2 Typewriting. Upon successful completion of this course, the student will demonstrate proficiency in keyboarding using correct touch-typing techniques, be able to type 20-30- plus words per minute for two minutes with five errors or less on straight-copy material, make all machine adjustments needed to set margins, tab and line spacing and center typed material both horizontally and vertically. Speed and accuracy development are emphasized. Lecture three hours and additional lab hours required. Intended for non-majors.

101-3 Business Correspondence. Principles and practice in written and oral communication. Includes development of ability to use words; application of correct grammatical construction in oral and written communications; analysis, planning, and practice of composing different types of internal and external communications in various administrative and business contexts; refinement of listing skills; mechanics and basic procedures for dictation; and ability to conduct a business meeting. Course will help form good habits that will facilitate adaptability in the world of work. Lecture and individualized instruction three hours.

111-3 Beginning Keyboarding. Upon successful completion of this course, the student will be able to correctly format and type business letters, memos and reports. Keyboarding speed and accuracy are emphasized. Lecture three hours and additional lab hours required.

112-3 Intermediate Keyboarding. Upon successful completion of this course, the student will be able to correctly format and type various communication documents and forms. Keyboarding speed and accuracy are emphasized. Lecture three hours and additional lab hours required. Prerequisite: 111 with a grade of C or better.

113-3 Advanced Keyboarding. Upon successful completion of this course, the student will be able to correctly format and type various advanced communication documents and forms. Keyboarding speed and accuracy

are emphasized. Lecture three hours and additional lab hours required. Prerequisite: 112 with a grade of C or better.

114-3 Office Software Applications. Upon successful completion of this course, the student will be able to identify concepts and terminology used with various office application software programs such as data bases, spreadsheets, graphics, and computer-aided transcription. The student will be able to create, format, edit, store, retrieve, and print different types of documents as well as apply advanced features of the software to expand basic documents. Lecture three hours and additional lab hours required. Prerequisite: 111 or equivalent and departmental approval.

180-1 Introduction to Court Reporting. Upon successful completion of this course, the student will understand the classifications of court reporters and their duties; be aware of job availability and career opportunities; understand the court reporters' code of ethics; understand the role of the reporter in the courtroom; be aware of technological innovations; and be familiar with local, state and national professional associations. Prerequisite: 111 or equivalent.

182-3 Legal Terminology. This course is designed to develop a working knowledge of legal terminology, including Latin words and phrases. An overview of several fields of law will enable the student to understand terminology commonly associated with the law. Lecture three hours.

186-4 Machine Shorthand I. Upon successful completion of this course, the student will be able to utilize conflict-free machine shorthand theory; write shorthand abbreviations, derivatives, and punctuation symbols; read printed shorthand text notes and student shorthand notes; take dictation of material for five minutes at 60-80 wpm; and transcribe with a minimum of 95 percent accuracy. Lecture five hours; laboratory five hours. Prerequisite: 111 or equivalent.

187-4 Machine Shorthand II. Upon successful completion of this course, the student will be able to write conflict-free machine shorthand briefs, phrases, and punctuation symbols; read conflict-free machine shorthand notes; take dictation of literary, jury charge and two-voice testimony at 100-120 wpm for five minutes and transcribe with a minimum of 95 percent accuracy. Lecture five hours; laboratory five hours. Prerequisite: 186, speed requirement of 186 must be met.

188-3 Court Transcript Preparation. Upon successful completion of this course, the student will be able to prepare court transcripts using the appropriate principles of punctuation, capitalization, numbers and abbreviations. The students will also apply knowledge of transcript components and methods of transcript preparation using current technology. Lecture three hours and additional laboratory hours required. Prerequisite: 111 or equivalent and 186.

199-1 to 10 Individual Study. Provides first-year students with the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment provides access to the resources of facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Prerequisite: approval of the sponsor and chair.

206-1 to 6 Career Enhancement. This course is designed as a professional development activity to enhance the skills of persons seeking to improve their overall office efficiency and work environment and also to provide additional training for those seeking to enter the field. Topics include, but are not limited to, proofreading, word usage, punctuation, grammar, shorthand, dictation/transcription, typing format, math, spelling, and vocabulary.

220-3 Legal Document Production. Upon successful completion of this course, the student will be able to produce a variety of legal documents and papers. Emphasis will be on use of modern word processing equipment and procedures. Lecture three hours and additional lab hours required. Recommended: working knowledge of a word processing package. Prerequisite: ability to type and use word processing on a computer.

242-3 Office Telecommunications. Upon successful completion of this course, the student will understand the importance of contemporary office telecommunications and why their importance is growing; review applications and basic technical detail; and be able to define necessary terms and concepts related to telecommunications and the telecommunication's environment involved in both voice and data communications. Prerequisite: 140.

261-3 Medical Terminology for Court Reporting. This course is designed to develop a working knowledge of medical terminology, including prefixes, suffixes and root words. The student will also be instructed in methods of researching medical information such as names and descriptions of diseases and drugs. Lecture three hours.

281-3 Legal Testimony I. Upon successful completion of this course, the student will be able to write testimony materials on the shorthand machine using conflict-free theory. The student will be able to take dictation for five minutes at 140-160 wpm and transcribe with a minimum of 95 percent accuracy. Lecture five hours. Prerequisite: 187, speed requirements of 187 must be met.

282-3 Literary/Legal I. Upon successful completion of this course, the student will be able to take literary and jury charge material on the shorthand machine using conflict-free theory. The student will be able to take dictation for five minute at 120-140 wpm and transcribe with a minimum of 95 percent accuracy. Lecture five hours. Prerequisite: 187, speed requirements of 187 must be met.

283-3 Legal Testimony II. Upon successful completion of this course, the student will be able to take two-voice testimony material on the shorthand machine using conflict-free theory. The student will be able to take dictation for five minutes at 160-180 wpm and transcribe with a minimum of 95 percent accuracy. Lecture five hours. Prerequisite: 281, speed requirement of 281 must be met.

284-3 Literary/Legal II. Upon completion of this course, the student will be able to write literary and legal material on the shorthand machine using conflict-free theory. The student will be able to take dictation for five

minutes at 160-180 wpm and transcribe with a minimum of 95 percent accuracy. Lecture five hours. Prerequisite: 282, speed requirement of 282 must be met.

285-3 Computer-Aided Transcription. Upon successful completion of this course, the student will be able to identify concepts and terminology used with various software programs, both operating systems and applications software. The student will be able to create, format, edit, store, retrieve and print different types of documents using computer-aided transcription. Students will demonstrate advanced features of the computer-aided transcription software including litigation support and realtime techniques and will describe the role of related applications software. Lecture three hours and additional lab hours required. Prerequisite: 111 or equivalent; 186 and 187.

288-3 Introduction to Realtime Technology. Upon successful completion of this course, the student will be able to operate a realtime translation system in simulated environments. Class time will be spent in developing speed and accuracy in the role of the realtime reporter in proceedings. Lecture three hours. Prerequisite: 285.

289-3 Court Reporting Procedures. Upon successful completion of this course, the student will be able to report the spoken word, transcribe shorthand notes, mark exhibits, administer the oath, and understand the judicial procedures and professionalism in the field of court reporting. Prerequisite: 285 or concurrent enrollment.

290-2 to 8 Cooperative Office Experience. Upon successful completion of this course, the student will be able to apply knowledge and skills learned in classroom situations to on-the-job situations in an office. Students will acquire knowledge related to securing a position, keeping a position, and advancing and growing in a career. Two hours per week are spent on related classroom instruction, and 15 or more hours per week (depending upon semester hours credit) are spent working on the job. Student must secure appropriate position which meets the cooperative education experience requirements. Prerequisite: sophomore status within Office Systems and Specialties and in good standing.

299-1 to 16 Individual Study. Provides students with the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment provides access to the resources of facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Prerequisite: approval of the sponsor and chair is required.

313-1 to 6 Machine Shorthand Speedbuilding. Upon completion of this course, the student will be able to write literary, jury charge and two-voice testimony materials at speeds of 140-225 wpm for five minutes using conflict-free machine shorthand theory. The student will transcribe with a minimum of 95 percent accuracy. Lecture three to five hours depending on credit hours registered for. Laboratory three to five hours depending on credit hours registered for. Prerequisite: 186 and 187.

316-1 Legal Ethics. Upon completion of this course, the student should understand the canons of professional ethics as listed in *Cochran's Law Lexicon* and the NSRA's *Code of Ethics*; have observed the etiquette and duties of court reporters by attending court sessions; have taken testimony in court and transcribed that copy in proper, final form; have taken jury duty charges and legal dictation in class at speeds of 100 to 180 words a minute and transcribed that copy with a minimum of 95 percent accuracy; have taken depositions and transcribed them in state-approved form. Lecture/laboratory two hours.

320-1 to 12 Office Systems and Specialties Cooperative Education. Each student will participate in a departmentally approved cooperative education program that includes formal instruction, training and/or career-related work experience. Students receive a salary or wages and engage in pre-arranged assignments related to their academic program and career objectives. Department faculty evaluations, cooperative agency student performance evaluations and student reports are required. Hours and credit to be individually arranged. Prerequisite: consent of instructor.

350-1 to 32. Technical Career Subjects. In-depth competency and skill development and exploration of innovative techniques and procedures used in business, industry, professions, and health service occupations offered through various workshops, special short courses, and seminars. Hours and credit to be individually arranged. This course may be classified as independent study. Prerequisite: consent of instructor.

385-3 Legal Testimony III. Upon successful completion of this course, the student will be able to take two-voice testimony material on the shorthand machine using conflict-free theory. The student will be able to take dictation for five minutes at 200-225 wpm and transcribe with a minimum of 95 percent accuracy. The student must pass three two-voice testimony takes with 95 percent accuracy. Students must earn a grade of C or better. Lecture five hours. Prerequisite: 283.

386-3 Literary/Legal III. Upon successful completion of this course, the student will be able to write literary and legal material on the shorthand machine using conflict-free theory. The student will be able to take dictation for five minutes at 180-200 wpm and transcribe with a minimum of 95 percent accuracy. The student must pass three literary takes at 180 wpm and three legal opinion/jury charge takes at 200 wpm with a minimum of 95 percent accuracy. Lecture five hours. Prerequisite: 284 with a grade of C or better.

388-3 Real Time Closed Captioning Technologies. Upon successful completion of this course the student will build a conflict-free dictionary using computer-aided transcription. By using stenotype input, the student will develop knowledge, skills and abilities to produce accurate simultaneous translation and display of live proceedings utilizing a computer-aided translation system. Prerequisite: 285, 288.

389-3 Court Practicum. Upon successful completion of this course, the student will have spent a minimum of 40 hours of machine writing in an approved freelance reporting office and/or an official reporting office and produced a usable transcript of the proceedings. The student will observe courtroom and freelance procedures, will write on the shorthand machine, will receive on-the-job training under the guidance of experi

enced reporters, and will participate in classroom activities related to the practicum experience. Prerequisite: 285 and concurrent enrollment in 385.

485-3 Legal Testimony IV. Upon successful completion of this course, the student will be able to write two-voice and four-voice testimony material on the shorthand machine using computer-compatible theory. The student will be able to take dictation for five minutes at 225 wpm to 240 wpm and transcribe with 95 percent accuracy to complete this course. Not for graduate credit. Prerequisite: 385.

486-3 Literary/Legal IV. This course is designed to enable the student in court and conference reporting to develop an advanced speed level on one-voice literary, jury charge and/or legal opinion material. Emphasis will be placed on various speedbuilding techniques in machine shorthand and information in English, current events, vocabulary development, and geography to allow the student to progress at 20-40 words per minute on literary, jury charge and/or legal opinion material. Not for graduate credit. Prerequisite: 386 with a C or better.

Paralegal Studies for Legal Assistants (Major, Courses)

The program leads to the Bachelor of Science degree in paralegal studies for legal assistants. It prepares the graduate to function as a paraprofessional in the legal profession and as a legal assistant in private practice, legal aid offices, or the law-related operations of business, industry, education, or government.

In overall philosophy as well as in curriculum content and format, the paralegal studies for legal assistants program is based on the proposed *Curriculum for the Training of Law Office Personnel* as stated by the American Bar Association Special Committee on Legal Assistants. The program has two components: a core of legal specialty, administration, and communication skills courses to provide professional competency and a range of social science and humanities courses to provide the intellectual background for the student's future professional life including an understanding of law and its function in society. Students must meet a minimum 2.25 grade point average requirement for admission. Paralegal majors can satisfy the CoLA Writing-Across-the-Curriculum requirement by passing 300A and B.

Qualified students may be admitted to the Capstone option with a major in paralegal studies for legal assistants. The Capstone option is explained in Chapter 3.

Bachelor of Science Degree, College of Liberal Arts

University Core Curriculum	41
College of Liberal Arts Academic Requirements (See Chapter 4)	11
Requirements for Major in Paralegal Studies for Legal Assistants	54
Paralegal Courses	27
Paralegal Studies for Legal Assistants 300a,b, 310, 320, 330, 350	18
Political Science 330 (general law)	3
Six hours selected from those listed below	6
Political science 334 (criminal law) or approved substitute	
Accounting 240 or 341 (income taxation)	
Accounting 441 (advanced taxation)	
Finance 270 (legal and social environment of business)	
Finance 320 (real estate)	
Finance 323 (real estate law)	
Finance 280 and 380 or approved substitute (business law)	
Paralegal Studies for Legal Assistants 340, internship.	
Students who take the internship will be required to work ten hours a week for one semester for each three hours of credit. A student may earn 12 hours of internship credit but not more than three will count toward the major.	
Administration Related Courses	9
Office Systems and Specialties 220	3
Accounting 210 or approved substitute	3

Computer Science 200a, Information Systems Technologies 109, Office Systems and Specialties 114	3
Liberal Arts Courses	18
Two upper-division courses in one social science department and one humanities department. The remaining hours may be taken in either field. University Core Curriculum courses numbered 300 or above may be counted.	
Electives	14
Total	120
At least fifteen hours in paralegal courses must be taken at Southern Illinois Univer- sity Carbondale.	

Paralegal Studies Suggested Curricular Guide

FIRST YEAR		FALL	SPRING	SECOND YEAR		FALL	SPRING
ENGL 101, 102.....	3	3	3	Multicultural.....	3	-	-
Science	3	3	3	Human Health.....	2	-	-
POLS 114.....	3	-	-	POLS 330	-	3	3
Humanities	3	3	3	SPCM 101, ACCT 210	3	3	3
Social Science.....	-	3	3	Interdisciplinary ¹	-	3	3
Mathematics	3	-	-	LAC 300 ¹ or 400.....	3	3	3
Fine Arts.....	-	3	3	CS 102, OSS 220.....	3	3	3
Total	15	15	15	Total	14	15	15
THIRD YEAR		FALL	SPRING	FOURTH YEAR		FALL	SPRING
PARL 300a,b	3	3	3	PARL 310.....	3	-	-
PARL 320	3	-	-	PARL 330.....	-	3	3
PARL 350	-	3	3	Law Elective ²	3	-	-
Foreign Language I, II	4	4	4	LAC 300 ¹ or 400.....	3	3	3
LAC 300 ¹ or 400	3	3	3	Free Elective.....	6	8	8
Law Elective ²	-	3	3				
Free Elective	3	-	-				
Total	16	16	16	Total	15	14	14

¹ For the purposes of this program core curriculum courses at the 300 level can be used to meet the 18 hour upper division liberal arts requirements.
² One of the law electives can be an internship.

Minor

A minor in paralegal studies for legal assistants requires 15 hours. Paralegal Studies for Legal Assistants 300a,b and Political Science 330 are required. The remaining six hours should be chosen from Paralegal Studies for Legal Assistants 310, 320, 330, 340 or 350.

Courses (PARL)

300A-3 Legal Analysis, Research and Writing I. After examining the litigation process and the structure of the federal and state court systems, students will be introduced to case and statutory analysis and to an understanding of the role of paralegals in the litigation process. They will learn how to analyze and synthesize written opinions and will complete several writing projects. This course meets the CoLA Writing-Across-the-Curriculum requirement.

300B-3 Legal Analysis, Research and Writing II. Students will continue to develop their analytical skills and will learn how to conduct effective legal research. Students will use the results of their research in connection with several additional writing projects, including memoranda of law and appellate briefs. Employment opportunities for paralegals and their professional responsibilities will be stressed throughout the course. This course meets the CoLA Writing-Across-the-Curriculum requirement. Prerequisite: 300a.

310-3 Civil Procedure. Students will examine the lawyers' and paralegals' roles in handling civil cases, and the means by which the objectives of litigation may be achieved. Strategy and mechanics of civil procedure will be explored in depth, and students will be required to prepare a complaint, discovery requests, and initial appellate documents.

320-3 Estates and Trusts. Students will study the more common forms of wills and trusts and the fundamental principles of law applicable to each; the course will analyze the administration of estates under the Illinois Probate Act.

330-3 Legal Forms of Business Organizations. Includes a review of the lawyer's role in the formation of business entities, including sole proprietorship, partnerships, and corporations, with a survey of the fundamental principles of law applicable to each and the preparation of documents necessary to the organization and operation of each. The student will be prepared to draft articles of incorporation and other legal documents relevant to the role of a paralegal in a modern law office.

340-1 to 12 Internship in Paralegal Studies. Supervised on-the-job training and experience in public or private offices typically employing paralegals. Student must work ten hours per week for fifteen weeks for each three hours of credit. Only three hours of internship credit applicable to major requirements. Prerequisite: completion of 300a and b with a grade no lower than B and consent of coordinator of paralegal studies program.

350-3 Family Law. This course is a review of the law as it relates to the various aspects of domestic relations including marriage, divorce and separation, alimony, child custody and support, taxes, and illegitimacy and adoption.

360-3 Torts. This course will provide an introduction to the broad area of civil wrongs and their appropriate remedies. Tort law principles in the traditional areas of intentional torts, negligence, absolute liability, product liability, nuisance and commonly employed defenses.

Paralegal Studies for Legal Assistants Faculty

Dibble, Elizabeth, Lecturer, J.D., Southern Illinois University, 1983.

Hood, Howard, Lecturer, J.D., University of Illinois, 1968.

Hughes, Kenneth, Lecturer, J.D., Southern Illinois University, 1982.

Lacey, Pamela, Lecturer, J.D., Southern Illinois University, 1982.

Murray, Richard, Lecture, J. D., Southern Illinois University Carbondale, 1982.

Smoot, Carolyn, Lecturer, J.D., Southern Illinois University Carbondale, 1983.

Philosophy (Department, Major, Minor, Courses)

Philosophy is a critical, speculative, and reflective discipline concerned with the exploration of ideas. The questions with which it deals can be found in every human pursuit and subject matter. Among the subjects it embraces are the nature of truth and reality, the possibility of knowledge, the quest for moral values and political justice, and the nature of mind, language, art, and reason. The field of logic is a formal study of the art of exact thinking. Given this breadth, philosophy can be related to almost any subject or profession.

Recent studies have shown that strong liberal arts majors are in much demand in the world outside the University. While preprofessionals may enter the job market with higher salaries, those with liberal arts majors tend to rise higher in their professions. This is because a liberal arts degree indicates a capacity for thinking, learning, writing, and breadth of understanding. Philosophy is a strong liberal arts major, and majors in philosophy rank in the highest percentages for GRE, LSAT, and GMAT scores. In addition to further academic work, philosophy contributes toward careers in law, medicine, business, government, journalism, religion, computers, and education.

The Department of Philosophy at SIUC is a pluralistic department, representing a variety of traditions, such as analytic philosophy, phenomenology, American philosophy, Asian philosophy, and feminism. It has faculty who specialize in the history of philosophy, logic, ethics, metaphysics, political and legal philosophy, the philosophy of science, the philosophy of technology, the philosophy of religion, and Islamic Studies. The undergraduate program is chartered by the national honor society in philosophy, *Phi Sigma Tau*.

The student electing to major in philosophy should consult the department's director of undergraduate studies. Early in the senior year, majors should contact a faculty member to direct the writing of the senior thesis. Philosophy majors will satisfy the College of Liberal Arts Writing-Across-the-Curriculum requirement by passing Philosophy 304, 305 and 499. A minor is not required for a major in philosophy, though it is recommended that the student take foreign languages such as Greek, Latin, French or German.

Bachelor of Arts Degree, College of Liberal Arts

<i>University Core Curriculum Requirements</i>	41
<i>College of Liberal Arts Academic Requirements (See Chapter 4.)</i>	14
<i>Requirements for Major in Philosophy</i>	33
Logic requirement: Philosophy 105 or 320	3
Ethics requirement: Philosophy 104 or 340	3
History of Philosophy requirement: Philosophy 304 and 305	6
Six hours from 300 level courses in addition to 304 and 305 (not including courses offered in the Interdisciplinary Studies component of the University Core Curriculum).....	6
At least six hours of 400-level courses	6
Senior Thesis: Philosophy 499	3
<i>Electives</i>	32
<i>Total</i>	120

Minor

A minor in philosophy requires 15 hours, a maximum of 6 of which may be selected from philosophy courses offered in the University Core Curriculum and 6 of which must be selected from the courses listed above for the major. Philosophy 304 and 305 are recommended.

Honors

Honors in philosophy will be granted to eligible majors who maintain a 3.50 average in philosophy and a 3.00 overall average. To be eligible for Honors, the student's senior thesis must be read by two faculty members and the student must receive at least an A or a B.

Courses (PHIL)

102-3 Introduction to Philosophy. (University Core Curriculum) [IAI Course: H4 900] Introduction to fundamental philosophical issues across a broad spectrum. Problems in metaphysics, epistemology and ethics will be among the areas explored. Emphasis throughout is upon developing in the student an appreciation of the nature of philosophical questioning, analyzing and evaluating arguments and reflecting on the nature of human existence.

103-6 (3,3) World Humanities. (University Core Curriculum) [IAI Course: (a) HF 904N] This course will explore the rise, development and interaction of the major world civilizations as embodied in ideas and their expressions in religion, philosophy, literature and art. The great traditions of Near Eastern, European, Central Asian, Indian, Chinese and Japanese cultures will be examined. **(a)** The first semester will cover the early civilization of the Near East, the classical world of Greece and Rome, early China and India. **(b)** The second semester will look at the integrative civilizations of Buddhism, Medieval Christianity and Islam, and Modern Europe.

104-3 Ethics. (University Core Curriculum) [IAI Course: H4 904] Introduction to contemporary and perennial problems of personal and social morality, and to methods proposed for their resolution by great thinkers past and present.

105-3 Elementary Logic. (University Core Curriculum) [IAI Course: H4 906] Study of the traditional and modern methods for evaluating arguments. Applications of logical analysis to practical, scientific and legal reasoning, and to the use of computers.

210-3 The American Mind. (University Core Curriculum) [IAI Course: HF 906D] This course will survey the diverse traditions, ideas and ideals that have shaped American culture in the past and today. Major works from Native American, African American, feminist, Puritan, Quaker and American Zen Buddhist writers may be used as well as those from such intellectual movements as the Enlightenment, Transcendentalism and Pragmatism.

211-3 Philosophy and Diversity: Gender, Race and Class. (University Core Curriculum) This course is a philosophical introduction to diverse perspectives within modern American culture. It will address through reading and discussion important contemporary moral and social issues from the perspective of nontraditional orientations including African American, Native American and American feminism. The resources of philosophy and other related disciplines such as psychology, sociology and literature will be used to develop a culturally enriched perspective on important contemporary issues.

300-3 Elementary Metaphysics. Presentation of answers to the most general problems of existence. An attempt to unify all scientific approaches to reality through the laying down of common principles.

301-3 Philosophy of Religion. An analysis of problems in the psychology, metaphysics, and social effects of religion. Among topics discussed are the nature of mystical experience, the existence of God, and problems of suffering, prayer, and immortality.

304-3 Ancient Philosophy. The birth of Western philosophy in the Greek world, examining such Presocratics as Anaximander, Heraclitus, Pythagoras, and Parmenides; focusing upon the flowering of the Athenian period with Socrates, Plato, and Aristotle. The course will conclude with a discussion of the Hellenistic systems of Stoicism, Epicureanism, and the Neo-Platonic mysticism of Plotinus of the Roman period. Fulfills CoLA Writing-Across-the-Curriculum requirement.

303I-3 Philosophy and Literature. (University Core Curriculum) [IAI Course: H9 900] An interdisciplinary examination of (1) literary and other artistic works which raise philosophic issues and (2) philosophic writings on the relationship between philosophy and literature. Possible topics include: source of and contemporary challenges to the traditional Western idea that literature cannot be or contribute to philosophy; the role of emotion, imagination and aesthetic value in philosophic reasoning; the role of literature in moral philosophy; and philosophic issues of interpretation.

305-3 Modern Philosophy. A survey course covering the major figures and themes in the development of modern philosophy up to Kant. Concentration on the Rationalist and Empiricist traditions and the simultaneous development of modern science. Fulfills the CoLA Writing-Across-the-Curriculum requirement.

306-3 Nineteenth Century Philosophy. Survey of 19th century European philosophy, focusing on the development of idealism and romanticism. Readings include selections from Fichte, Schelling, Hegel, and others.

307I-3 Philosophy of Science, Nature and Technology. (University Core Curriculum) Interdisciplinary study of major humanistic critiques of technology, science and nature; analysis of topics such as ecology, the information revolution, aesthetics and ethics in various branches of science and technology, relation of science to technology.

308I-3 Asian Philosophy. (University Core Curriculum) [IAI Course: H4 903N] An interdisciplinary examination of some major Asian philosophy traditions, such as Vedanta, Buddhism, Confucianism, Taoism, or Sufism, in their historical and social contexts.

309I-3 Philosophy of Politics, Law and Justice. (University Core Curriculum) An interdisciplinary exploration of classical and modern theories of law and justice with special attention to their implications for important contemporary political issues.

320-3 Deductive Logic. Main forms of deductive inference. Emphasis on the use of the symbolism of modern logic to evaluate inferences.

340-3 Ethical Theories. [IAI Course: H4 904] Nature of ethics and morality, ethical skepticism, emotivism, ethical relativism, and representative universalistic ethics. Bentham, Mill, Aristotle, Kant, Blanshard, and Brightman.

342-3 Legal and Social Philosophy. Discussion of contemporary institutions designed to achieve socially desirable goals (e.g., guaranteeing equality of opportunity, protecting individual liberties, assuring a fair distribution of wealth, minimizing violent behavior) and the philosophical theories that serve as the foundation for the continued existence or reform or abolition of these institutions (e.g., the theories of Mill, Rawls, and Kant).

344-3 The Biomedical Revolution and Ethics. Changes in biology and medicine have brought into sharp focus such problems as allocation of scarce medical resources, use of human subjects in experiments, abortion, euthanasia, genetic screening, truth-telling in medical practice, moral rights of patients and other matters. This course brings ethical principles to bear on these issues.

362-3 Science and Technology in Western Societies. A study of the development and significance of science and technology in the shaping of western societies since the scientific revolution. Historical, philosophical, and sociological perspectives will be used to understand the relationships between science and technology and between these and other cultural and religious values.

371-3 Introduction to Contemporary Phenomenology. Introductory survey of individual thinkers and questions in the contemporary phenomenological tradition: Husserl, Sartre, Merleau-Ponty, Levinas, and Ricoeur.

375-3 Ecology and Ethics. An exploration of several views of the relationship between human beings and the natural world. This course will examine the changing paradigms of environmental studies for insights on our epistemological and moral approaches to nature. Both classical and contemporary literature on nature will be used. Such topics as the Gaia hypothesis, ecofeminism, deep ecology, and the use of nature for human purposes will be addressed.

385-3 Mystical Literature and Meditation. This course will introduce and explore the profound tradition of literature that has nourished religious, ethical, as well as philosophical and literary, developments in Western and Eastern cultures, but has often been overlooked, not only by the sciences, but also by the humanities: the tradition of mystical literature. In addition to reading primary sources representative of Western and Eastern mystical traditions, this course will include a weekly lab during which the student will be exposed to meditative techniques and actual meditative practices. Finally, this course will integrate guest speakers/practitioners, audio and visual supports pertaining to the course, and work on the Web, allowing students to broaden their connections to others who also share an interest in this field of study and practice. Prerequisite: at least one course (three hours) in the humanities on the 100 or 200 level.

389-3 Existential Philosophy. Surveys the two main sources of existentialism, the philosophies of Kierkegaard and Nietzsche, with occasional reference to thinkers such as Sartre, Heidegger, Buber, Marcel, and others.

397-6 (3,3) Undergraduate Philosophy Seminar. Small group discussion of topics in philosophy.

400-3 Philosophy of Mind. An investigation of the philosophic issues raised by several competing theories of mind, focusing on the fundamental debate between reductionistic accounts (e.g., central state materialism,

identity theories of the physical and mental) and views which reject such proposed reductions. Traditional and contemporary theories will be examined. Designed for students in the life and social sciences with little or no background in philosophy as well as philosophy students.

415-3 Logic of Social Sciences. (Same as Sociology 415.) An examination of the theoretical structure and nature of the social sciences and their epistemological foundations. The relationship of social theory to social criticism; theory and praxis. Historical experience and social objectivity. Social theory as practical knowledge.

420-3 Symbolic Logic. Survey of basic concepts, decision procedures, and proof techniques of modern symbolic logic.

425-3 Philosophy of Language. (Same as Speech Communication 465 and Linguistics 425.) An investigation into the way in which language is based on the nature of human cognitive structures, including metaphor, prototypes, frames, and various kinds of imaginative structure. Central topics include the grounding of meaning and conceptual structure in bodily experience, the role of imagination in reasoning, and the metaphorical nature of thought.

435-9 (3,3,3) Philosophy of Science. (a) Critical survey of influential descriptions of scientific method and theory construction. Topics include the relationship between observation and theory confirmation, explanation, prediction, theory of change and discovery, and view of scientific rationality. Historical cases will serve to focus the discussions. (b) Philosophy of the Special Sciences. This course will focus on philosophical issues within a specific science such as Biology, Physics, or Psychology. Theory, method, and historical development of the specific science will be examined. (c) Special Topics in the Philosophy of Science. This course will provide a detailed focus on a specific orientation or topic relevant to philosophy of science. Topics would include naturalized epistemology, evolutionary epistemology, history and philosophy of science, feminist epistemology, modern science, and philosophy of nature.

441-3 Philosophy of Politics. (Same as Political Science 403.) The theory of political and social foundations; the theory of the state, justice, and revolution. Classical and contemporary readings such as: Plato, Aristotle, Hobbes, Locke, Rousseau, Marx, Dewey, Adorno and others. Prerequisite: 340 or Philosophy 102 or consent of instructor.

443-3 Philosophy of History. The rise of historical objectivity and the science of history. Classical and modern theories of history. History as the foundation of social knowledge. The critique of history as universal perspective. Prerequisite: consent of instructor.

446-3 Philosophical Perspectives on Women. (Same as Women's Studies 456.) Discussion of contemporary views of women and social issues from a feminist perspective.

460-3 Philosophy of Art. We will examine several important theories that define art by focusing in on only one aspect, for example, imitation, expression, form, institutional setting, or even indefinability. What role does imagination play in each of these accounts, and does this tell us something important about how people experience their world?

468-9 (3,3,3) Kant (a) First Critique; (b) Theory of Morality; (c) Aesthetic Theory.

469-3 Hellenistic and Roman Philosophy to Augustine. The career of philosophy during the Hellenistic, Roman and Early Medieval period, especially as a means of personal salvation, exploring such figures and movements as: Epicurus, Stoicism, the Middle Academy, Skepticism, Gnosticism, Plotinus, Early Christianity, Augustine, and Boethius. Prerequisite: 304 or consent of instructor.

470-6 (3,3) Greek Philosophy. (a) Plato. A general survey of the Platonic dialogues from the Socratic period through the middle, with some selections from the Late period. Such Dialogues will be emphasized as: Protagoras, Gorgias, Euthydemus, Charmides, Meno, Phaedo, Symposium, Republic, Phaedrus, Sophist and Timaeus. (b) Aristotle. A general survey of the Aristotelian philosophy including the theory of nature, metaphysics, ethics, and political philosophy. Readings will consist of selections from the corpus. Prerequisite: 304 or consent of instructor.

471-3 Medieval Philosophy. An examination of the synthesis of Greek philosophy with Christian religions and with Judeo-Islamicate philosophical traditions, exploring such figures as Augustine, Boethius, Avicenna, Averroes, Abelard, Maimonides, Thomas Aquinas, Duns Scotus, Ockham, and Cusanus. Prerequisite: 304 or consent of instructor.

472-6 (3,3) The Rationalists. (a) Descartes. A study of the Philosophy of Rene Descartes, concentrating on his major writings, *Meditations*, *Discourse on Method* and *Principles of Philosophy*, as well as his philosophical correspondence. May include study of Descartes' relation to the later Rationalists. (b) Study of the philosophy of one or more of Spinoza, Leibniz, Arnauld, Malebranche, Wolff. May include study of the relation of these philosophers to Descartes. Prerequisite: 305 or consent of instructor.

473-6 (3,3) The Empiricists. (a) Locke; (b) Hume. Study of the principles of British empiricism as represented by either Locke or Hume. May also include study of Berkeley. Prerequisite: 305 or consent of instructor.

474-12 (3,3,3,3) 19th Century Philosophers. (a) Hegel; (b) Kierkegaard; (c) Marx; (d) Nietzsche. Prerequisite: 306 or consent of instructor.

475-3 Topics in Asian Philosophy. Extended examination of one or two major texts, figures or philosophical schools in Asian philosophy. Topics vary; students are advised to consult with the instructor.

476-3 Islamicate Philosophy. An examination of several major philosophical traditions or figures in the Islamicate world, such as Ibn Sina, al-Ghazzali, Mulla Sadra and Sufism, with an emphasis on their social and historical contexts.

477-3 Indian Philosophy. An examination of several major traditions and texts of Indian philosophy, such as Vedanta, Nyaya, the *Upanishads*, the *Bhagava Gita* and contemporary political philosophy, with an emphasis on their social and historical contexts.

478-3 Buddhist Philosophy. An examination of several major philosophical traditions or figures in Buddhism, such as Madhyamika, Zen, Mind-Only, and the Kyoto school, with an emphasis on their social and historical contexts.

479-3 Chinese Philosophy. An examination of several major traditions of Chinese philosophy, such as Confucianism, Taoism, Neoconfucianism, Mohism and Maoism, with an emphasis on their social and historical contexts.

480-3 History of Analytic Philosophy. An introduction to the works of several major 20th Century philosophers in the analytic tradition, including several of the following: Frege, Russell, Moore, Wittgenstein (early and later), members of the Vienna Circle, Ayer, Ryle, Quine, Putnam, Davidson. Includes discussion of challenges to the tradition that have developed within it.

482-3 Recent European Philosophy. Philosophical trends in Europe from the end of the 19th Century to the present. Phenomenology, existentialism, the new Marxism, structuralism, and other developments. Language, history, culture and politics.

486-3 Early American Philosophy. From the Colonial period to the Eve of World War I. This course will trace the transplantation of European philosophy to the New World. Puritanism, Quakerism, the theory of the American Revolution, the philosophical basis of the Constitution, transcendentalism, idealism, Darwinism and pragmatism and such figures as: Jonathan Edwards, John Woolman, Thomas Jefferson, James Madison, Ralph Waldo Emerson, Josiah Royce, Charles Sanders Peirce, and William James.

487-3 Recent American Philosophy. From World War I to the Present. The major American philosophers of the 20th Century, covering such issues as naturalism, emergentism, process philosophy, and neopragmatism. Figures include: John Dewey, George Herbert Mead, George Santayana, Alfred N. Whitehead, C. I. Lewis, W. V. Quine, and Richard Rorty.

490-1 to 8 Special Problems. Hours and credits to be arranged. Courses for qualified students who need to pursue certain topics further than regularly titled courses permit. Special topics announced from time to time. Students are invited to suggest topics. Prerequisite: consent of department.

491-1 to 6 Undergraduate Directed Readings. Supervised readings for qualified students. Open to undergraduates only. Prerequisite: consent of instructor. Additional hours beyond three (3) must have approval of the Director of Undergraduate Studies.

499-3 Senior Thesis. A paper on a topic agreed to by the student and a faculty thesis director. The paper should be of sufficient length to manifest the student's mastery of a philosophical area and logical and critical skills. Not for graduate credit. Prerequisite: consent of instructor and department.

Philosophy Faculty

Alexander, Thomas, Professor, Ph.D., Emory University, 1984.

Black, Andrew, Assistant Professor, Ph.D., University of Massachusetts at Amherst, 1992.

Clarke, David S., Jr., Professor, *Emeritus*, Ph.D., Emory University, 1964.

Diefenbeck, James A., Professor, *Emeritus*, Ph.D., Harvard University, 1950.

Eames, Elizabeth R., Professor, *Emerita*, Ph.D., Bryn Mawr College, 1951.

Gaskill, Thomas E., Assistant Professor, Ph.D., Vanderbilt University, 1992.

Gatens-Robinson, Eugenie, Associate Professor, Ph.D., Southern Illinois University, 1984.

Gillan, Garth J., Professor, Ph.D., Duquesne University, 1966.

Hahn, Lewis E., Professor, *Emeritus*, and Editor of *Library of Living Philosophers*, Ph.D., University of California, 1939.

Hahn, Robert A., Associate Professor, Ph.D., Yale University, 1976.

Hickman, Larry A., Professor, Ph.D., University of Texas at Austin, 1971.

Howie, John, Professor, *Emeritus*, Ph.D., Boston University, 1965.

Kelly, Matthew J., Associate Professor, *Emeritus*, University of Notre Dame, 1963.

Manfredi, Pat A., Assistant Professor, University of Notre Dame, 1982.

Plochmann, George Kimball, Professor, *Emeritus*, Ph.D., University of Chicago, 1950.

Schedler, George E., Professor, Ph.D., University of California at San Diego, 1973; J.D., Southern Illinois University, 1987.

Steinbock, Anthony J., Associate Professor, Ph.D., SUNY, Stony Brook, NY, 1993.

Stickers, Kenneth W., Professor and *Chair*, Ph.D., De Paul University, 1982.

Summerfield, Donna M., Associate Professor, Ph.D., University of Notre Dame, 1984.

Tyman, Stephen, Associate Professor, University of Toronto, 1980.

Physical Education (Department, Major, Courses)

The Department of Physical Education offers programs which qualify graduates for positions as teachers in elementary and secondary schools or for alternative careers in private, industrial, and public settings. Whatever the student's career aims may be, the programs provide a full range of intriguing and challenging professional opportunities in diversified curricula. The student can choose a discipline best suited to individual interests, talents, temperament, and future plans. While studying new

concepts, the student will observe the work of outstanding teachers, athletic coaches, and clinicians. Whichever direction is selected, the student will study and practice in modern facilities, with the latest equipment and will learn the most recent techniques.

Teacher Education Specialization. The teacher education specialization consists of courses which are designed to meet the requirements of the Illinois State Department of Education and are, in most cases, transferable to meet requirements of other states. The laboratory and classroom experiences consist of basic and applied sciences, methods of teaching, and acquisition of physical skills which include a variety of team and individual sports, exercise, and dance.

Students selecting the Teacher Education Specialization may also elect additional courses to become certified by the Illinois Athletic Coaching Certification Board (IACCB) or complete a minor in either aquatics or athletic training. These additions to the preparation for teaching will enhance a graduate's employment opportunities.

Departmental prerequisites for admission to Teacher Education in the college are Physical Education 317 and 318. Additionally students must also have completed Physical Education 314 or be currently enrolled.

Athletic Training Specialization. The athletic training specialization is designed to train students to provide exemplary first-aid care for student-athletes, and administer rehabilitation, therapeutic treatment, and preventive conditioning programs under the supervision of a physician. This program prepares graduates for careers as athletic trainers in public schools, colleges, and private and industrial settings.

Exercise Science and Physical Fitness. This program is designed for students who wish to direct physical fitness programs in private, industrial and public settings. Preparation in this program enables the graduate to assess components of adult fitness, design individual exercise programs for the development and maintenance of physical fitness, and manage a physical fitness program. Graduates will have the foundation for continued study at the graduate level.

Bachelor of Science Degree, College of Education

PHYSICAL EDUCATION MAJOR – TEACHER EDUCATION SPECIALIZATION

<i>University Core Curriculum Requirements</i>	41
To include: ENGL 101, 102, and 121 or 204; SPCM 101; MATH 110 or 113; FL 101, HIST 101a ¹ , HIST 101b, PHIL 103a or PHIL 103b; HIST 110; AD 101, ENGL 203, HIST 201, MUS 103 or THEA 101; POLS 114; ZOOL 115; CHEM 106, GEOL 110 or PHYS 101; ANTH 202, HIST 202, 210 or SOC 215; ENGL 308i, FL 310i or FL 313i; PE 101.	
<i>Requirements for Major in Physical Education</i>	47
Physical Education 113, 116, 118, 120, 201, 301, 305, 314, 317, 318, 320, 321, 323, 324, 345, 370, Physiology 201 and 220.	
<i>Professional Education Requirements</i>	28
See Teacher Education Program.	
<i>Additional courses required for Teacher Certification</i>	3
Psychology 102	
<i>Electives</i>	2
<i>Total</i>	121

PHYSICAL EDUCATION MAJOR – ATHLETIC TRAINING SPECIALIZATION

Students majoring in physical education with a specialization in athletic training must maintain the following standards to remain in the program:

1. A minimum grade point average of 2.25 at the University.
2. A minimum grade point average of 2.5 for all required course work in the athletic training specialization;

- 3. Obtain a grade of B or better in Physical Education 225;
- 4. Obtain a grade of C or better in Physiology 301;
- 5. Complete 1200 hours of clinical experience;
- 6. Be proficient in basic skills according to class level.

The prospective student should make an early application to this program because enrollment is limited due to the size of the faculty.

<i>University Core Curriculum Requirements</i>	41
To include Physics 101; Zoology 118; Health Education 101; Psychology 102; Speech Communication 101	
<i>Requirements for Major in Physical Education</i>	81
Core Requirements	19
Physical Education 201, 303, 304, 326, 320; Physiology 201, 220	
Additional Physical Education Requirements	26
Physical Education 225, 226, 305, 317, 325, 327, 328a,b, 341, 355d, 370, 381, 382, 407 or 426.	
Additional Requirements	36
Physical Therapist Assistant 203, 208, Allied Health Careers Specialties 105; Health Education 334, 407, 434; Psychology 302, 303, 323; Physiology 208, 301; Chemistry 106; Food Nutrition 101	
<i>Electives</i>	3
<i>Total</i>	125

PHYSICAL EDUCATION MAJOR – EXERCISE SCIENCE AND PHYSICAL FITNESS SPECIALIZATION

<i>University Core Curriculum Requirements</i>	41
To include Psychology 102 and Zoology 118 as a substitute.	
<i>Requirements for Major in Physical Education</i>	68
Core Requirements	(2) + 16
Physical Education 201, 303, 304, 320, 324; Physiology 201, 220	
Additional Physical Education Requirements	16
Physical Education 113, 355f, 380, 381, 382, 408, 420	
Additional Requirements	(6) + 36
Accounting 210; Management 170, 202, 301 or 304, 350 or 385; Biology 200a; Chemistry 140a,b; Computer Science 202 or 212 or Information Management Systems 229; Food and Nutrition 215, 320; Physiology 208; Educational Psychology 402; Zoology 118.	
<i>Electives</i>	11
<i>Total</i>	120

Students wishing to gain experience in physical education and areas related to physical education may pursue work in aquatics, coaching and athletic training.

Minor in Physical Education

A student with a minor in physical education in secondary education must complete the following courses:

<i>Required Activity Courses</i>	7
Physical Education 113, 116 or 120, 118	
<i>Required Methods Courses</i>	5
Physical Education 305, 323	
<i>Required Theory Courses</i>	18
Physical Education 201, 301, 317, 320 or 321, 324, 370	
Physiology 220 or 201	
<i>Total</i>	30

Minor in Aquatics

A student must have advanced swimming skill, a current American Red Cross Life-guarding certificate and a current adult CPR certification to enter the program. If not,

the student must obtain them by coursework or workshops.

Required Courses:	10
Physical Education 307 or 311, 310, 312, 355a, 418	
Electives:	6
Three courses from Physical Education 307 or 311; 308a, b, c, d, or e; 330c; 494a, b (First Aid Instructor and CPR Instructor certification ¹ .)	
Total	16

¹Current First Aid and CPR certification completed independent of coursework is acceptable. Certification may be satisfied through the coursework indicated.

Minor in Athletic Training

The prospective student should make an early application for admission to this program because enrollment is limited due to the size of the faculty.

Students in physical education with a minor in athletic training must complete the following requirements for retention in the minor: (1) 2.25 SIUC grade point average; (2) 2.5 grade point average in required courses; (3) B in Physiology 220; (4) B in Physical Education 225; (5) complete 800 hours of clinical experience supervised by a certified trainer at the University; and (6) must be proficient in the basic athletic training skill according to class level.

Requirements for the minor are listed below.

University Core Curriculum Requirements	10
Psychology 102; Health Education 101; Food and Nutrition 101; Speech Communication 101	
Physical Education Requirements	34
Physical Education 201, 225, 226, 303, 304, 305, 317, 320, 325, 326, 327, 328a,b, 341, 355d, 370, 407 or 426	
Other Requirements	20
Psychology 303, Health Education 334 and 434, Physical Therapist Assistant 208, Physiology 201, 208, 220	
Total	64

Minor in Coaching

Requirements for the minor are listed below:

Required courses	15
Physical Education 201, 317, 324, 329, 345, 355C.	
The Department of Physical Education recommends the additional courses: Physical Education 320, 303 and 304 or 321, 330 (appropriate sport).	

Courses (PE)

101-2 Current Concepts of Physical Fitness. (University Core Curriculum) To foster a thorough understanding of scientific principles of physical fitness and to enhance the ability to utilize physical exercise toward achievement of healthful living.

102-2 to 10 (2 per section) Aquatics. These courses are designed to provide an introduction to the fundamental skills and knowledge in the selected activities. Swimming suits and towels are provided; however, students may provide their own one piece swimming suit (no pockets), towel and cap (optional). Long hair must be tied back. Goggles are recommended for some classes. A \$2 fee is required for all classes listed. (a) Swimming I: Orientation to Swimming. Prerequisite: course is open only to non-swimmers. Mandatory Pass/Fail grading. (b) Swimming II: 102a or equivalent skills and safe in deep water. (c) Skin Diving. Prerequisite: consent of instructor and pass swimming test prior to enrollment. (d) Scuba Diving. Fee and successful completion of National Test required for certification, special sections have extra charge for field trips. Prerequisite: consent of instructor and pass swimming test prior to enrollment. (f) Lifeguarding. Fee and successful completion of National Test required for certification. Prerequisite: 102b or equivalent skill and pass swimming test first day of class (500 yard continuous swim using front crawl, sidestroke and breaststroke, treadwater two minutes-legs only, retrieve a ten pound brick from seven foot depth).

103-2 to 12 (2 per section) Dance. These courses are designed to provide an introduction to the fundamental skills and knowledge in the selected activities. Students must wear clothing appropriate for the activity. A fee of \$2 is required for all classes listed. (a) Ballet, (b) Ballroom, (c) Jazz, (d) Modern, (e) Square, (f) Tap.

104-2 to 12 (2 per section) Fitness. These courses are designed to provide an introduction to the fundamental skills and knowledge in the selected activities. Students must wear clothing appropriate for the activity. A fee of \$2 is required for all classes listed. (a) Aerobic dance, (b) Cycling, bicycle required and helmet, (c) Running, (d) Strength training, (e) Walking and jogging, (f) Weight control.

105-2 to 14 (2 per section) Individual and Dual Activities. These courses are designed to provide an introduction to the fundamental skills and knowledge in the selected activities. Students must wear clothing appropriate for the activity. A fee of \$2 is required for all classes listed. (a) Badminton, three shuttlecocks required, (b) Bowling, additional lane fee of \$18 per credit hour and bowling shoes required, (c) Golf, six plastic golf balls required, (d) Racquetball, three racquetballs required, (e) Tennis, three tennis balls and racquet, (f) Self defense, (g) Wrestling.

106-2 to 10 (2 per section) Team Activities. These courses are designed to provide an introduction to the fundamental skills and knowledge in the selected activities. Students must wear clothing appropriate for the activity. A fee of \$2 is required for all classes listed. (a) Basketball, (b) Flag football, (c) Soccer, (d) Softball, (e) Volleyball.

107-1 to 4 Restricted Physical Education. For physically challenged students as recommended by Health Service and consent of instructor. Course not designed for students who can take other physical activity courses. Mandatory Pass/Fail.

113-2 Aquatics. This course provides the opportunity for the student to improve one's ability in swimming skills and strokes. It is designed to prepare the student to be safe in, on and around the water. It prepares the student to react in emergency situations by knowing and having the ability to perform the proper rescue techniques to use while maintaining one's own safety. Prerequisite: 102a or equivalent skill.

116-3 Team Sports. This course is designed to introduce students to skills, lead up and modified games, strategies and basic rules of team sports. Emphasis will be on developing the basic skills through observation and analysis of movement patterns appropriate for various skill level.

118-2 Rhythms and Dance. This course is designed to teach the fundamentals of rhythm, basic dance steps and the elements of dance. Basic skills in square, folk, social and aerobic dance will also be taught.

120-3 Individual Sports. This course is designed to introduce students to skills, lead up games, strategies and basic rules of individual sports and activities. Emphasis will be on developing the basic skills through observation and analysis of movement patterns appropriate for various skill level.

160-2 to 8 (2,2,2,2) Dance Concert Production Ensemble. A select group which performs, choreographs, and produces one dance concert per semester and tours as feasible. Prerequisite: audition prior to first registration and consent of instructor each succeeding semester. Participation as an apprentice of Southern Illinois Repertory Dance Theatre for one semester.

170-2 Varsity Sports. The course is designed to teach skills and strategies as well as the rules and practices involved in a selected varsity sport. Prerequisite: Names must appear on an official NCAA squad list and consent of instructor.

201-3 Concepts of Physical Fitness. A course designed to provide physical education students with the most recent scientific evidence to promote health related physical fitness by introducing students to different training programs, their benefits and means of evaluation.

202-3 Physical Activities for Children and Youth. Developing activities for motor perceptual development and skill acquisition appropriate for different age levels of children and youth. Tennis shoes required. Dress must permit ease of movement. Prerequisite: at least sophomore standing.

225-2 Introduction to Athletic Training. This course is designed for students pursuing a career in athletic training. The course provides knowledge about the NATA, job opportunities, incidence of injury, basic injury prevention, recognition and treatment. It also provides the student with information concerning the recognition and treatment of illnesses and conditions common to athletes.

226-1 Taping Techniques. To familiarize the student with all aspects of taping including practice taping experience for athletic injuries.

245-3 Sport and Modern Society. (Same as Sociology 233.) Viewing sport as an integral aspect of society and culture, this introductory course examines the various ways in which sport reflects the broader society and how sport constitutes an important cultural product. In particular, the course explores (1) how sport shares many of the same characteristics as other social institutions (e.g., family, education, politics, economy, mass media), (2) how sport reinforces social inequalities, and (3) how sport serves as an arena for social change and resistance.

257-1 to 5 Current Work Experience. The student receives credit for current work experiences. Credit is awarded for many practical experiences and must be related to physical education and in process. Prerequisite: at least C average in physical education after 12 hours. Mandatory Pass/Fail.

258-1 to 5 Work Experience. The student receives credit for past work experiences. Credit is awarded for many practical experiences and must be related to physical education and already completed. Mandatory Pass/Fail. Prerequisite: at least C average in physical education courses after 12 hours.

301-3 Foundation, Organization and Administration of Physical Education. This course is designed to examine the historical and philosophical development of physical education. Students will gain a historical perspective of the physical education profession ranging from its earliest origins to its future development. The course will also examine the administrative and legal concerns relevant to the profession of physical education. Students will develop an understanding of the theories and principles involved in the administration and management of a physical education program. Specific concerns to be addressed are: (1) organizational and administrative processes, (2) program facilities and equipment, (3) personnel, (4) budget, (5) legal liabilities, and (6) public relations. The emphasis throughout the course will be a practical application of administrative concepts for the physical education teacher.

302-2 Kinesiology of Normal and Pathological Conditions. Force system, its relation to the mechanics of muscle action. Analysis of muscular-skeletal forces involved in physical activities. Prerequisite: Physiology 220.

303-2 Kinesiology. Force system, its relation to the mechanics of muscle action. Analysis of muscular-skeletal forces involved in physical education activities. Prerequisite: Physiology 220.

304-2 Mechanical Basis of Human Movement. Applies body mechanics with application of mechanical laws and principles to performance in physical activities. Prerequisite: 303 or consent of instructor.

305-2 Methods of Teaching Physical Education for Special Populations. An introductory course designed to provide the physical education generalist with the minimal competencies needed to teach the mildly physically challenged students in the mainstreamed or special education setting. The course will also aid the special education classroom teacher in providing appropriate physical education. Prerequisite: 317 and junior standing.

306-1 Advanced Swimming, Skill and Analysis. Prerequisite: Physical Education 102b or equivalent.

307-2 Water Safety Instructor. Methods of teaching swimming and basic emergency water safety. American Red Cross Water Safety Instructor certificate may be earned. Fee and National Test are required for certification. Prerequisite: Physical Education 102e or equivalent certification and concurrent enrollment in PE 306.

308-2 to 10 (2 per section) Instructor of Aquatics. (a) Handicapped. (b) Skin diving. (c) Scuba diving. (d) Canoeing. (e) Swimming. Prerequisite: consent of instructor.

310-2 Aquatics Facilities Management. Learning experiences designed to aid in the development of aquatic specialists who can efficiently work toward satisfactory solutions to the problems inherent in functional design, operation, and maintenance of aquatic facilities that are associated with schools, municipalities, and other organizations.

311-2 Lifeguarding Instructor. The skills, techniques and methods of preparing qualified individuals to prepare persons to become lifeguards at pools and open-water, non-surf beaches, American Red Cross Lifeguard Instructor Certification may be earned. Fee and National Test required for certification. Prerequisite: Physical Education 102f or equivalent certification. Lifeguarding experience.

312-2 Science and Pedagogy of Swimming. Designed to provide students: (1) a scientific basis for teaching swimming and (2) a necessary background as a future professional in the aquatic field. Prerequisite: 307 or equivalent. Previous teaching or coaching swimming required.

314-3 Methods of Teaching Elementary Physical Education. The purpose of this course is for physical education students to develop knowledge and skills for planning, implementing, and evaluating appropriate and effective physical education progressions. The course will consist of lectures, class participation in demonstrations of teaching movement, and peer teaching. Prerequisite: 317 and 318.

316-3 Advanced Level Sports Skills: Scuba. Prerequisite: consent of instructor.

317-2 Motor Development. The purpose of this course is to provide an introduction to the normal development of motor behavior in children and adolescents, biological and environmental variables which affect motor skill acquisition; and the assessment of motor development in children and youth, with particular emphasis on the application of the knowledge to teaching and learning situations.

318-2 Motor Learning. Study of theory and research emphasizing the psychological and neural basis of underlying the learning of motor skills; application to physical education teaching and athletic coaching environments. Prerequisite: Psychology 102.

320-3 Physiological Basis of Human Movement. Immediate and long range effects of muscular activity on the systems. Integrative nature of body functions and environmental influences on human performance efficiency. Laboratory to be arranged. Prerequisite: Physiology 201 or equivalent.

321-3 Biomechanical Analysis of Sport. The science of human motion is the basis of this course. The anatomical and mechanical principles of human motion will be studied as well as how these principles relate to skillful and efficient movement in humans. Prerequisite: Physiology 220.

322-1 Teaching Practicum. Laboratory experience assisting with a Physical Education courses or in a school setting. Mandatory Pass/Fail.

323-3 Methods of Teaching Secondary Physical Education. The purpose of this course is for physical education students to develop knowledge and skills for planning, implementing, and evaluating appropriate and effective physical education programs at the secondary school level. The course will focus on knowledge and skills related to effective instructional strategies, efficient management and organizational principles, and effective class control and motivational techniques specific to teaching physical education for secondary school students. Prerequisite: 314, 317, 318.

324-2 Essentials of Athletic Training. This course provides basic information regarding prevention, recognition, first aid, taping and wrapping of athletic injuries. The student will be required to successfully demonstrate basic strapping techniques, bandaging, splinting and CPR. The course leads to certification in first aid and CPR. Certification fees payable to the local organization will be collected in class.

325-2 Training Room Techniques. Intended for the student who wishes to complete a specialty as athletic trainer. Provides knowledge concerning the organization and administration of a training room, the installation and use of its modalities, and general procedures of training room operational functions. Prerequisite: Physiology 220 or 301.

326-3 Emergency Care and Prevention of Athletic Injuries. The theoretical and practical methods of preventing and treating athletic injuries; techniques of taping and bandaging; emergency first aid; massage; use of physical therapy modalities. Lecture and laboratory sessions. Prerequisite: Physiology 220 or 301.

327-2 Medical Aspects of Athletic Injury. The student will acquire an advanced understanding of the proper prevention and rehabilitation of athletic injuries. The student will also understand medical and surgical procedures and their consequent factors to be considered in treatment programs. Prerequisite: 326.

- 328-2 (1, 1) Field Experience in Athletic Training.** The student will be responsible for prevention of injuries, taping, rehabilitation, evaluation, and coverage of practices and games for an intercollegiate athletic sport. Prerequisite: 327 and permission by athletic training program coordinator.
- 329-3 Principles and Procedures for the Conduct of Interscholastic Athletics.** An examination of the history, values, and trends in extracurricular sports programs. A review of regulations and standards as determined by the governing bodies for men's and women's sports and an in-depth study of coaching and administrative procedures. Prerequisite: competitive experience recommended and consent of instructor.
- 330-2-26 (2 per section) Techniques and Theory of Coaching.** (a) Basketball. (b) Football. (c) Swimming. (d) Baseball. (e) Track and field. (f) Wrestling. (g) Tennis. (h) Gymnastics. (i) Golf. (j) Badminton. (k) Field hockey. (l) Softball. (m) Volleyball. Prerequisite: consent of instructor.
- 341-2 Assessment of Musculoskeletal Injuries.** The student will be introduced to the techniques in evaluating injuries to muscles and joints. Prerequisite: basic athletic training course and consent of instructor.
- 345-3 Psychological and Social Aspects of Sport and Physical Activity.** This course exposes students to psychological and sociological concepts related to sport and physical education contexts. Primarily designed for future physical education teachers and coaches, the class examines how psychological and sociological principles relate to teaching and coaching contexts.
- 355-2 to 14 (2 per section) Practicum.** (a) Aquatics. (b) Special populations. (c) Coaching. Mandatory Pass/Fail. (d) Athletic training. (e) Dance. (f) Exercise science. (g) Teaching of sport. Prerequisite: restricted to written consent of instructor.
- 370-2 Measurement and Evaluation in Physical Education.** The theory of measurement in physical education, the selection and administration of appropriate tests of motor skills and the interpretation of results. Prerequisite: Education 317 or concurrent enrollment.
- 380-2 Aerobics.** A study of theoretical and practical framework within which the concepts of aerobic fitness exist. Both an evaluation and a hands-on experience with the direct and indirect procedures commonly used to determine oxygen uptake capacity and aerobic power. A thorough discussion of the meaning of aerobic fitness as it applies to general fitness of the adult and aging person. Prerequisite: 320, junior standing, and approval of the instructor in the semester prior to enrollment.
- 381-2 Exercise and Weight Control.** A theory practicum course dealing with the interrelationships of exercise and diet as factors influencing weight control. Emphasis on the practical delivery of programs of weight control in the context of adult programs of physical fitness. Prerequisite: 320, junior standing, and approval of the instructor in the semester prior to enrollment.
- 382-3 Graded Cardiovascular Testing and Exercise Prescription.** A study of the controlled use of exercise to evaluate the cardiovascular function of an adult population and in specific persons of middle and older aged groups. The scientific basis of recommending exercise programs as a preventive rather than a treatment of heart disease will be stressed. Prerequisite: 320, junior standing, and approval of the instructor in the semester prior to enrollment.
- 407-2 Advanced Theory and Techniques in the Prevention and Rehabilitation of Athletic Injuries.** The application of scientific principles to the theoretical and practical methods of preventing and treating athletic injuries. Prerequisite: Basic Athletic Training Course.
- 408-2 Physical Fitness: Its Role and Application in Education.** An analysis of physical fitness as it relates to the total well-being of people. Specific units on the fitness parameters, hypokinetic disease and physical inactivity, stress, current level of fitness, training programs, and the beneficial aspects of regular exercise. Major emphasis is placed upon incorporating current thinking on physical fitness into the development of teaching models.
- 409-3 Social Aspects of Sport and Physical Activity.** This course presents the theoretical and empirical foundations of sport sociology. A research-based approach is used to explore the relationship of sport to various social institutions, as well as the role of social processes (e.g., socialization, discrimination, stratification, conflict) in sport and physical activity contexts.
- 410-3 Psychological Aspects of Sport and Physical Activity.** This course presents the theoretical and empirical foundations of sport psychology. Operating from a conceptual rather than an applied framework, this class develops an understanding of social psychological phenomenon and processes related to participation in sport and physical activity (e.g., personality, anxiety, arousal, achievement motivation, social facilitation, aggression, pro-social behavior, group dynamics).
- 412-3 Research and Practice in Applied Sport Psychology.** This course examines current research and practice in applied sport psychology. Emphasis will be placed on moving from theory into practice on sport-specific individual differences, motivational approaches, and interventions.
- 415-3 Foundations of Sport and Fitness Management.** An introduction to broad concepts and issues regarding the management of health clubs, corporate fitness programs; and various components of amateur and professional sport organizations. Students will investigate foundational aspects of sport and fitness management, examine requirements for operating successful programs and gain insight into various career opportunities.
- 418-2 Administration of Aquatics.** The study of comprehensive aquatic programs, their implementation and coordination.
- 420-3 Physiological Effects of Motor Activity.** The general physiological effects of motor activity upon the structure and function of body organs; specific effect of exercise on the muscular system. Prerequisite: Physiology 201 or equivalent.
- 421-3 Principles of Skeletal Muscle Action.** The neural, physiological and mechanical basis of skeletal muscle action and plasticity in relation to the expression of strength and power. Prerequisite: Physiology 209 or equivalent.

425-2 Current Topics in Athletic Training. This course is designed to study and discuss current issues in athletic training and the health care of the athlete.

426-2 Advanced Techniques and Research in Therapeutic Modalities. Specifically designed for the student who wishes to become an athletic trainer and gain knowledge in the application and current research in therapeutic modalities.

493-2 to 4 Individual Research. The selection, investigation, and writing of a research topic under supervision of an instructor. (a) Dance. (b) Kinesiology. (c) Measurement. (d) Motor development. (e) Physiology of exercise. (f) History and philosophy. (g) Motor learning. (h) Psycho-social aspects. Written report required. Prerequisite: consent of adviser and department chair.

494-2 (1,1) Practicum in Physical Education. Supervised practical experience at the appropriate level in selected physical education activities in conjunction with class work. Work may be in the complete administration of a tournament, field testing, individual or group work with special populations, administration of athletics or planning physical education facilities. Prerequisite: consent of adviser.

Physical Education Faculty

Ackerman, Kenneth, Assistant Professor, *Emeritus*, M.A., Michigan State University, 1959.

Becque, M. Daniel, Associate Professor, Ph.D., University of Michigan, 1988.

Blackman, Claudia J., Assistant Professor, M.S.Ed., Southern Illinois University, 1968.

Blinde, Elaine M., Associate Professor, Ph.D., University of Illinois, 1987.

Brechtelsbauer, Kay M., Assistant Professor, Ph.D., Southern Illinois University, 1980.

Carroll, Peter, Assistant Professor, Ph.D., Pennsylvania State University, 1970.

Dirks, W. Edward, Instructor, M.S., Southern Illinois University, 1964; Certificate, Physical Therapy, Ohio State University, 1965.

Duncan, Glen, Assistant Professor, Ph.D., University of Tennessee, Knoxville, 1997.

Good, Larry, Associate Professor, *Emeritus*, Ph.D., Temple University, 1968.

Hartzog, Lewis, Instructor, *Emeritus*, M.E., Colorado State University, 1954.

Illner, Julee Ann, Assistant Professor, M.S.Ed., Southern Illinois University, 1968.

Knowlton, Ronald, Professor and *Chair*, Ph.D., University of Illinois, 1961.

Long, Linn, Assistant Professor, M.S., University of Colorado, 1967.

McCallister, Sarah G., Assistant Professor, Ed.D., University of Arkansas, 1989.

Okita, Ted, Professor, *Emeritus*, M.A., Northwestern University, 1964.

Perkins, Sally A., Instructor, M.S., Indiana University, 1976.

Potter, Marjorie Bond, Professor, *Emerita*, Ph.D., University of Southern California, 1958.

Scott, David, Assistant Professor, Ph.D., University of Northern Colorado, 1997.

Shea, Edward, Professor, *Emeritus*, Ph.D., New York University, 1955.

Stotlar, John, Associate Professor, *Emeritus*, D.P.Ed., Indiana University, 1954.

Thorpe, Jo Anne Lee, Professor, *Emerita*, Ph.D., Texas Woman's University, 1964.

West, Charlotte, Professor, *Emerita*, Ph.D., University of Wisconsin, 1969.

Wilson, Donna, Associate Professor, M.F.A., University of Oklahoma, 1975.

Zimmerman, Helen, Professor, *Emerita*, Ph.D., University of Wisconsin, 1951.

Physical Therapist Assistant (Major, Courses)

The physical therapist assistant program, which has been accredited by the Commission on Accreditation in Physical Therapy Education, is designed to prepare the student to work under the direction of a licensed physical therapist to treat disabilities resulting from birth defects, disease, or injury. Physical therapy helps the patient to develop strength, mobility, coordination, and skills needed to manage pain.

Students will learn massage, exercise, physical agents, and other therapeutic techniques in actual practice in the University's Clinical Center. They will work with physical therapists and physical therapist assistants performing therapeutic techniques and assessments. The student should expect to spend approximately \$150 for uniforms and professional dues during their course of study. Students are expected to provide documentation of immunization or waiver for HBV. Many hospitals are now requiring HBV before internship experiences. Before graduation the student will serve a twelve-week internship in two separate facilities away from the University Campus.

The program is served by an advisory committee made up of practicing physical therapists, physical therapist assistants, students and educators who provide expertise to assure a curriculum which will prepare graduates to meet the physical therapy needs of the public.

Increasing numbers of elderly and chronically ill persons and the rapid expansion of health care programs in both urban and rural areas have created an urgent demand for physical therapy personnel. Employment opportunities are available in hospitals, rehabilitation centers, extended care facilities, out patient clinics and schools. Physical therapy provides a unique service and requires a close interpersonal relationship with the patient. The student must possess the following qualities to work with people: (1) good mental and physical health, (2) stamina, (3) good coordination and manual dexterity, and (4) spirit of cooperation and a positive attitude, and (5) the ability to problem solve.

There is a limited enrollment to this program, students must meet baccalaureate entrance requirements, and admission is selective. Prospective applicants should make early application to the University. Once admitted in the pre-Physical Therapist Assistant category, the student will receive a second application specific to the program. Selection into the program is based upon evaluation of applications in relationship to other applicants.

This associate degree program may be completed entirely at Southern Illinois University Carbondale or in combination with community colleges or other extra-institutional educational experiences. This associate degree can be completed in one calendar year if the applicant has successfully completed the appropriate college level courses before program entry.

The Physical Therapist Assistant program has a Linkage Agreement with Southeastern Illinois College, Rend Lake College and Shawnee College. If you have questions about this agreement, contact the Community College advisor or Health Care Professions at (618) 453-8801.

The credits from the physical therapist assistant major will not necessarily transfer to a professional physical therapy program.

Associate in Applied Science Degree, College of Applied Sciences and Arts

Requirements for Major in Physical Therapist Assistant

Zoology 118, Physiology 201 and 208 and either Chemistry 106 or Physics 101 or Information Management Systems 229		10-11
Psychology 102		3
English 101		3
Speech Communication 101		3
Health Care Professions 105		2
Health Education 334		3
Physiology 220 (with a minimum grade of C)		3
Physical Education 303, 320, and 325 or 326		7-8
Psychology 301, or 303, or 304, or 305		3
Physical Therapist Assistant 107, 113, 202, 203, 204, 205, 208, 209a,b, 213, 214, 321, 322 (each with a minimum grade of C)		36
Total		73-75

Courses (PTH)

- 107-3 Introduction to Physical Therapy Practice and Procedures.** Students will be able to describe the historical background, professional, ethical, and legal aspects of physical therapy practice. They will be able to describe the relationship of physical therapy to total health care. They will explain and demonstrate basic skills such as sterile techniques, wound care, and vital signs monitoring. They will be able to perform massage techniques to selected patients. Lecture: two hours. Laboratory: two hours. Prerequisite: program major or consent of instructor.
- 113-2 Physical Agents I.** The students will be able to demonstrate procedures used in the safe application of superficial and deep heat, cryotherapy, ultraviolet, paraffin, and hydrotherapy. Lecture one hour. Laboratory two hours. Prerequisite: program major or consent of instructor.
- 199-1 to 10 Individual Study.** Provides first-year students with the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment provides access to the resources of

facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Prerequisite: approval of the sponsor, program supervisor and department chair.

202-2 Physical Rehabilitative Techniques. The student will be able to demonstrate rehabilitative procedures such as bed positioning, range of motion exercises, transfer activities, gait training, chest physical therapy, goniometry, and will understand the concepts of total rehabilitation. Lecture one hour. Laboratory two hours. Prerequisite: program major or consent of instructor.

203-2 Pathology. The student will be able to understand the fundamental basis of disease including inflammation, cardiovascular diseases, vascular diseases, arthritic conditions and repair of bone and soft tissue injuries. Emphasis will be placed on those conditions treated through physical therapy procedures. Lecture two hours. Prerequisite: Physiology 201 and 208; program major or consent of instructor.

204-2 Physical Therapist Assistant, Practicum I. Students will be able to carry out routine physical therapy assisting procedures with selected patients. They will be able to demonstrate skills in massage, hydrotherapy, range of motion exercises, activities of daily living, and application of heat, cold, and ultraviolet. They will also be able to assist in maintaining records and equipment. Lecture one hour. Clinic four hours. Prerequisite: program major or consent of instructor.

205-2 Physical Therapy Science. The students will be able to describe selected medical and surgical conditions from the standpoint of etiology, clinical signs and symptoms, and physical therapy treatment. Lecture two hours. Prerequisite: program major or consent of instructor; Physiology 201, 208 and 220.

208-3 Therapeutic Exercise I. Designed to teach basic exercises for individual muscles or muscle groups, including breathing, postural exercises, manual muscle testing, and gait analysis, training and balance. Successful students will learn to select exercises for specific results; i.e., increasing strength, coordination, endurance, flexibility, and proper body mechanics. Lecture two hours. Laboratory two hours. Prerequisite: Physiology 220 with a minimum grade of C; program major or consent of instructor.

209-4 (2,2) Therapeutic Exercise II. Successful students will be able to administer therapeutic exercise techniques for specific clinical orthopedic and neurological conditions through demonstrations and supervised application of exercise for selected patients. The student will understand and safely apply the principles of advanced therapeutic exercise techniques such as (a) motor reflexes, sensory integration, normal motor development, and utilization of synergies. Lecture one hour. Laboratory two hours. (b) PNF, joint mobilization, and muscle balancing. Lecture one hour. Laboratory two hours. Prerequisite: 208 with a minimum grade of C; program major or consent of instructor.

213-3 Physical Agents II. The student will be able to demonstrate procedures used in the safe application of electrical currents, electrical muscle stimulation and electrotherapy for pain and healing functions; and other modalities including pelvic traction, cervical traction and intermittent compression. The student will understand and be able to describe the physiological effects, indication and contraindications for each physical agent covered. Lecture two hours. Laboratory two hours. Prerequisite: program major or consent of instructor.

214-3 Physical Therapist Assistant, Practicum II. Students will be able to perform the skills acquired in Practicum I as well as more complex physical therapy assisting procedures with selected patients. They will be able to demonstrate skills in therapeutic exercise and safe application of physical agents. They will be able to assist in maintaining records and developing cooperative spirit with other members of the department. Lecture one hour. Clinic five hours. Prerequisite: minimum grade of C in 107, 113, 202, 203, 204, 208, and 213.

299-1 to 16 Individual Study. Provides students with the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment provides access to the resources of facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Prerequisite: approval of the sponsor, program supervisor and department chair is required.

319-1 to 15 Occupational Internship. Each student will be assigned to a University approved organization engaged in activities related to the student's academic program and career objectives. The student will perform duties and services as assigned by the preceptor and coordinator. Reports and assignments are required to be completed by the student. Hours and credits to be individually arranged. Mandatory Pass/Fail.

321-8 (4,4) Clinical Internship. The successful student will be able to apply previously learned theories and techniques of patient care through closely supervised practicum experience in two separate physical therapy facilities. (a) First six week internship. (b) Second six week internship. Must be taken in a,b sequence. Prerequisite: must be taken concurrently with 322; completion of 107, 113, 202, 203, 204, 205, 208, 209, 213, and 214 with a grade of C or better.

322-2 Clinical Seminar. Students will be able to discuss with the coordinator of the program patient care and problems encountered during internship. They will have the opportunity to evaluate their educational experience at Southern Illinois University Carbondale and their clinical internship experience. Prerequisite: concurrent enrollment in 321. Mandatory Pass/Fail.

350-1 to 32 Technical Career Subjects. In-depth competency and skill development and exploration of innovative techniques and procedures used in business, industry, professions and health service occupations offered through various workshops, special short courses and seminars. Hours and credit to be individually arranged. This course may be classified as individual study. Prerequisite: consent of instructor.

Physician Assistant (Major, Courses)

The Physician Assistant program is offered by the Department of Health Care Professions in the College of Applied Sciences and Arts in collaboration with the Depart

ment of Family and Community Medicine of the School of Medicine. The program utilizes a problem-based learning curriculum and clinical rotations to prepare primary care physician assistants to practice medicine with physician supervision.

The physician assistant is often the first health care provider to see a patient and performs a variety of primary care tasks including collecting historical and physical data from the patient and ordering appropriate laboratory tests. Working with the physician, the physician assistant summarizes this information and participates in formulating and executing a treatment plan to meet the patient's needs. Under physician supervision, the physician assistant makes assessments and provides therapy for basic health-related problems. Also, the physician assistant can evaluate psychological aspects of a patient's health, counsel when appropriate, and teach patients about primary health problems. With physician approval, the physician assistant makes referrals when indicated. The physician assistant can perform technical skills, such as EKGs, venipuncture, minor suturing and giving injections. Graduates of the Physician Assistant program are trained as primary care providers and awarded the Bachelor of Science degree.

To be considered for enrollment in the Physician Assistant program, prospective students must be admitted to the University, have had medical terminology or its equivalent, and have completed both the University Core and support course requirements. Prospective students must have completed at SIUC or have University approved substitutions for the following University Core and support courses: Health Care Professions 105 (medical terminology), Chemistry 140a,b (chemistry); Mathematics 108 or Mathematics 110 (college algebra); Microbiology 201 (elementary microbiology); Physiology 201 and 208 (physiology); Physiology 301 (anatomy); Psychology 102 (introductory psychology); Sociology 108 (introductory sociology); and Zoology 115 (biology). Students who are interested in the SIUC Physician Assistant program and who have not completed the University Core and support course requirements should contact the College of Applied Sciences and Arts, Physician Assistant academic advisor for advisement on the University Core and support courses.

Students who have completed the University Core and support course requirements should contact the academic advisor, Physician Assistant Program, College of Applied Sciences and Arts for program application information. Enrollment in the Physician Assistant program is limited and based on a competitive process. Selection is based on grade point average and earned credits according to SIUC's calculations, evidence of health care experience, completion of the program application, and an interview. Preference will be given to applicants who have significant health care experience and who are from central and southern Illinois. Approximately 100 students will be selected for an interview with a maximum of 30 being admitted to the professional sequence.

Students will be selected for the professional sequence to begin study only in the summer session. Those accepted into the program will be notified of acceptance during the spring semester prior to the summer of entry. The curriculum is a 26 month sequence with the first 12 months consisting of problem-based learning activities and clinical experiences and the next 14 months consisting of clinical rotation with seminars.

Bachelor of Science Degree, College of Applied Sciences and Arts

<i>University Core Requirements</i>	41
Including Chemistry 140a, Mathematics 108 or 110, Psychology 102, Sociology 108, Zoology 115	
<i>Support Course Requirements</i>	15
Chemistry 140b, Microbiology 201, Physiology 201, 208 and 301	
<i>Requirements for Major in Physician Assistant Program</i>	72

First Year Sequence	40
Physician Assistant 300, 310, 320	
Second Year Sequence	32
Physician Assistant 420, 430, 440, 450	
Total	128

Physician Assistant Suggested Curricular Guide

SUMMER	SUMMER				
PA 300	8				
PA 420	6				
PA 450	2				
Total	16				
THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
PA 310	16	-	PA 430.....	12	-
PA 320	-	16	PA 440.....	-	12
Total	16	16	Total	12	12

Courses (PA)

300-8 Physician Assistant I. An introduction to the role and skills of the physician assistant. Students will be introduced to patient's history, physical exam, interviewing and triage skills and the development of skills necessary to organize information. This course is graded in a Pass/Fail format. Prerequisite: acceptance into Physician Assistant program.

310-16 Physician Assistant II. This course is a continuation of Physician Assistant I. Students will learn additional skills and roles of the Physician Assistant through learning sessions, observations, practice sessions and actual practice. Students will increase their knowledge and appreciation of primary care, community medicine and epidemiology through exposure to PBL cases on: depression, family planning/STD/ contraception, hypertension/patient compliance, immunizations, middle ear infections and unintentional injury. This course is graded in a Pass/Fail format. Prerequisite: 300.

320-16 Physician Assistant III. A continuation of 310. Students will continue to add to the role and skills of the physician assistant. Emphasis will be placed on the common problems and referrals for primary care in rural medicine. This course is graded in a Pass/Fail format. Prerequisite: 310.

420-6 Physician Assistant Clinical Rotation I. This is the first and introductory course in a three course sequence. During the three course sequence, students will complete eight clinical rotations including family medicine, obstetrics, pediatrics, surgery, psychiatric, gerontology, emergency and internal medicine. Rotations vary from two to eight weeks at each clinical site. The first rotation is usually eight weeks in family or internal medicine during which students will observe and work under close supervision with a clinical supervisor and physician. This course is graded in a Pass/Fail format. Not for graduate credit. Prerequisite: restricted to physician assistant majors, consent of instructor, and successful completion of the first year didactic sequence.

430-12 Physician Assistant Clinical Rotation II. This is the second and intermediate course in a three course sequence. During the three course sequence, students will complete eight clinical rotations including family medicine, obstetrics, pediatrics, surgery, psychiatric, gerontology, emergency and internal medicine. Rotations vary from two to eight weeks at each clinical site. The second rotation will include either family or clinical medicine and depending on scheduling, the student will complete two to three additional rotations. The student will observe and begin to function as a physician assistant for routine health problems under the supervision of a clinical supervisor and physician. This course is graded in a Pass/Fail format. Not for graduate credit. Prerequisite: restricted to physician assistant majors, consent of instructor, 420.

440-12 Physician Assistant Clinical Rotation III. This is the third and advanced course in a three course clinical sequence. During the three course sequence, students will complete eight clinical rotations including family medicine, obstetrics, pediatrics, surgery, psychiatric, gerontology, emergency and internal medicine. Rotations vary from two to eight weeks at each clinical site. During the third rotation students will complete all remaining rotations during which they will continue to observe and function more independently as a physician assistant under the supervision of a clinical supervisor and physician. This course is graded Pass/Fail format. Not for graduate credit. Prerequisite: restricted to physician assistant majors, 430.

450-2 Senior Seminar. A topical seminar in conjunction with clinical rotation and medical case presentation designed to review and build on the student's medical knowledge base. Problem areas identified during clinical rotations will be utilized as lecture topics. Students will practice board exams, review licensure procedures and prepare for transition to permanent employment. This course is graded in a Pass/Fail format. Not for graduate credit. Prerequisite: restricted to physician assistant majors, 440 or concurrent enrollment.

Physics (Department, Major, Courses)

The undergraduate major in physics leading to the Bachelor of Science degree provides for a mastery of basic principles and methods of classical and modern physics

and prepares the student for a wide variety of career opportunities. A degree in physics can lead to a challenging and interesting career. Physics as a profession has always been at the center of exciting discoveries, and much of modern science is originally based on the research done by physicists. The outlook for the future appears even more challenging.

The Physics Department at SIUC offers a first-rate undergraduate program in physics. Individual attention is provided to physics majors. We offer advanced laboratory courses in modern physics, digital and analog electronics and lasers and modern optics. Most importantly, the Department of Physics is research-oriented with all of its faculty active in research. Participation by advanced undergraduates in the research program of a faculty member is encouraged and can be very useful to students, providing them with technical skills not available through formal coursework and giving them a taste of *real* physics. The physics faculty at Southern Illinois University Carbondale is engaged in a wide range of research activities in both experimental and theoretical physics. Our undergraduates can participate in experimental projects in such areas as low-temperature physics, surface physics, applied physics, material physics, fluid physics, rheology, super-conductivity, photonics, magnetism, infrared spectroscopy and electron paramagnetic resonance. For those students who have an interest in theoretical physics, research projects are available in high-interest areas such as quantum physics, solid state physics, atomic and molecular physics, computational physics, statistical mechanics and nuclear physics.

Employment opportunities in physics are varied and abundant, from industrial research and development to teaching. Physicists are employed in all sectors of society, including corporations, government research agencies and universities. Physicists are presently enjoying unusual opportunities in the development of new concepts that are expected to have far-reaching consequences in the high technology of the future. Totally new applications are arising from understanding basic physics principles. Some of these emerging concepts include laser communications, holography, synchrotron radiation light sources, opto-electronics, high-temperature superconductors and physics applications in medicine. At a time when technological developments and discoveries are creating a heavy demand for physicists, projections indicate the possibility of a critical shortage of trained physicists.

In summary, physics is an exciting field, its graduates are in demand and enjoy high salaries. At SIUC, you have the opportunity to achieve a well-rounded education in becoming a physicist. Students considering a major in physics are urged to consult with the undergraduate adviser of the physics department. An applied physics/experimental physics optional curriculum is provided by selecting from the courses marked with an asterisk in the list of courses required for a major in physics.

Bachelor of Science Degree, College of Science

University Core Curriculum Requirements	41
College of Science Requirements	(3) + 9 ¹
Biological Science (not University Core)	(3) + 3 ¹
Supportive Skills	6
Choose six hours from the following:	
One to two semesters of any foreign language offered at Southern Illinois University Carbondale	
English 291 or 491 or Management 202 (select only one)	
Computer Science 200a or 202 or Engineering 222 (select only one)	
Requirements for Major in Physics	(3) + 71 ¹
Chemistry 200, 201, 210, 211	(3) + 5 ¹
Mathematics 150, 250, 251, 305	14
Mathematics 306 or 406 or 407 or 409	3

Physics 205a,b,c and 255a,b,c	12
Physics 301, 310, 320, 345, 410, 420, 430	21
Physics electives chosen from: 324, 328, 424, 425, 428, 431, 432, 445, 450, 458, 470	16
Total	121

¹Number in parenthesis are hours which may be substituted into the University Core Curriculum.

Physics Suggested Curricular Guide

FIRST YEAR		FALL	SPRING	SECOND YEAR		FALL	SPRING
ENGL 101, 102.....	3		3	Core Social Science	3		3
PHYS 205a, 255a	-		4	Core Humanities	-		3
MATH 150, 250	4		4	PHYS 205B, 255B.....	4		-
CHEM 200, 201.....	4		-	PHYS 205C, 255C.....	-		4
CHEM 210, 211.....	-		4	MATH 251, 305.....	3		3
Core Humanities	3		-	PHYS 301.....	-		3
Human Health	2		-	SPCM 101	3		-
				Fine Arts	3		-
Total	16		15	Total	16		16
THIRD YEAR		FALL	SPRING	FOURTH YEAR		FALL	SPRING
PHYS 345	3		-	PHYS 430.....	3		-
PHYS 310, 410	3		3	PHYS Elective.....	6		8
PHYS 320, 420	3		3	Biological Science.....	3		-
PHYS Elective.....	-		2	Multicultural	3		-
Math Elective.....	3		-	Interdisciplinary	-		3
Biological Science.....	-		3	Free Elective.....	-		3
CS Tools	3		3				
Total	15		14	Total	15		14

Minor

A minor in physics requires 17 hours and must include Physics 203a,b and 253a,b, or 205a,b and 255a,b as well as 205c and 255c and 5 hours from any 300- or 400-level physics course except Physics 470.

Courses (PHYS)

100-1 Undergraduate Seminar. Lectures and discussions by students, faculty and invited guests on topics in physics. Will include discussions on employment opportunities, graduate school admission and undergraduate research. Graded: Pass/Fail.

101-3 The Physics of Modern Communications: From Hi-Fi Sound to Laser Beams. (University Core Curriculum) The laws of nature necessary for understanding modern communications such as high fidelity, sound, radio, television and laser beams are presented. Topics include wave phenomena, sound, electricity, magnetism and light. Applications to sound recording and communications and the technical vocabulary necessary to critically evaluate high fidelity equipment are emphasized.

102-1 Everybody's Einstein. A non-mathematical presentation of Einstein's relativity theories on a popular level. No prerequisite.

103-3 Astronomy. (University Core Curriculum) Fundamental concepts of the physical sciences are used in the exploration of the observable universe. Studies include the history and techniques of astronomy, planets, stars, black holes, galaxies and cosmology. Lectures are supplemented by outdoor astronomical observations and/or indoor laboratory exercises.

203-6 (3,3) College Physics. [IAI Course: (a) P1 900, BIO 903; (b) BIO 904] Designed to meet preprofessional requirements and the needs of all students in the sciences, except physics and engineering. (a) Mechanics, heat, and sound. Prerequisite: Mathematics 108 and 109 or 111. (b) Electricity, magnetism, light, and some aspects of modern physics. Prerequisite: 203a.

205-9 (3,3,3) University Physics. Designed to meet requirements of physics, engineering, and chemistry majors. (a) [IAI Course: EGR 911, P2 900] Mechanics, heat, and thermodynamics. Prerequisite: Mathematics 150 or concurrent enrollment. (b) [IAI Course: EGR 912] Electricity, magnetism, and optics. Prerequisite: 205a. (c) [IAI Course: EGR 914] Concepts in modern atomic, molecular, nuclear physics, quantum physics, and relativity. Prerequisite: 205a,b or consent of instructor.

253-2 (1,1) College Physics Laboratory. [IAI Course: P1 900L] One two-hour laboratory per week. Prerequisite: completion of or concurrent enrollment in 203a,b respectively; if the corresponding lecture course is dropped, the laboratory course must also be dropped.

255-3 (1,1,1) University Physics Laboratory. [IAI Course: (a) EGR 911, P2 900L; (b) EGR 912: (c) EGR 914] One two-hour laboratory per week. Prerequisite: completion of or concurrent enrollment in 205a,b,c respectively; if the corresponding lecture course is dropped, the laboratory course must also be dropped.

301-3 Theoretical Methods in Physics. Introduction to theoretical methods of general usefulness in intermediate and advanced undergraduate physics, with particular emphasis on applications of vector algebra and calculus, complex numbers, matrices, ordinary differential equations and Fourier series to selected topics in physics. Required of all physics majors prior to or concurrently taking 310 or 320. Prerequisite: 205a, Mathematics 250 or consent of instructor.

302-3 Astronomy — Honors. Current knowledge of the universe and the gathering of that knowledge. Includes properties of the solar system and theories of its origin, the structure and evolution of stars. Supplemented by occasional hours of evening observation. Prerequisite: one of 203a, 204a, 205a, plus Mathematics 111, or consent of instructor.

310-3 Mechanics I. Motions of systems of particles and rigid bodies. Prerequisite: 301 or Mathematics 305 or concurrent enrollment.

320-3 Electricity and Magnetism I. The theory of electric and magnetic fields; electrostatic fields in vacuum and in material media, special methods for the solution of electrostatics problems, energy, and force relations in electrostatic fields; stationary electric fields in conducting media, electric currents, magnetic fields, magnetic properties of matter. Prerequisite: 301 or Mathematics 305 or concurrent enrollment.

324-3 Analog Electronics for the Scientist. Coordinated two-hour lecture and two-hour laboratory study in analog electronics. Emphasis is on overall modern electronics and its applications in the experimental research laboratory setting. Topics include DC and AC circuit theory, transducers and measurement techniques, semiconductor active devices, operational amplifiers and feedback, signal recovery and processing techniques, and noise reduction. Prerequisite: 203b or 205b and Mathematics 111.

328-2 Light. Light propagation, reflection, refraction, interference, diffraction, polarization, and optical instruments. Prerequisite: 203 or 205.

345-3 Thermodynamics and Statistical Physics. Thermal behavior of macroscopic matter, the laws of thermodynamics; basis for thermodynamics in statistical mechanics; basic methods and applications of classical and quantum statistical mechanics. Elementary kinetic theory of matter. Prerequisite: 301, Mathematics 251.

410-3 Mechanics II. Gravitation, continuous media, transformation properties, Lagrangian and Hamiltonian formalisms. Prerequisite: 310 or consent of instructor.

420-3 Electricity and Magnetism II. Induced electromotive force, quasisteady currents and fields, Maxwell's equations, electromagnetic waves and radiation, with applications. Prerequisite: 320 or consent of instructor.

424-3 Digital Electronics for the Scientist. Coordinated two-hour lecture and two-hour laboratory study of digital electronics, microprocessors and minicomputers with emphasis on their application to the experimental research laboratory setting. Topics include Boolean algebra, basic digital techniques, large scale integration devices, analog to/from digital conversion, microprocessors and minicomputers, and data acquisition. Prerequisite: 324 or consent of instructor.

425-3 Solid State Physics I. Structure of a crystalline solid; lattice vibrations and thermal properties; electrons in metals; band theory; electrons and holes in semiconductors; opto-electronic phenomena in solids; dielectric and magnetic properties; superconductivity. Prerequisite: 310, 320, 345, and 430 or consent of instructor.

428-3 Modern Optics and Lasers. Properties of electromagnetic waves in space and media, polarization and interference phenomena and devices, electro- and magneto-optic effects, optical gain, and lasers. Prerequisite: 420 or consent of instructor.

430-3 Quantum Mechanics I. An introduction to quantum mechanics including its experimental basis and application in atomic physics. Prerequisite: 205c, 310 and 320. Prior or concurrent enrollment in 410 and 420 is desirable.

431-3 Atomic and Molecular Physics I. Atomic spectra and structure; molecular spectra and structure. Prerequisite: 430 or consent of instructor.

432-3 Nuclear Physics I. Basic nuclear properties and structure; radioactivity, nuclear excitation, and reactions, nuclear forces; fission and fusion. Prerequisite: 430 or consent of instructor.

445-3 Statistical Mechanics I. An introductory course in the principles and applications of classical and quantum statistical mechanics, and the elementary kinetic theory of matter. Prerequisite: 345.

450-1 Modern Physics Laboratory. Introduces students to experimental research and encourages them to develop and carry out experiments. Prerequisite: 205c or consent of instructor.

458-2 Laser and Optical Physics Laboratory. Properties of laser beams and resonators, fluorescence and two photon spectroscopy, diffraction, Fourier transformation and frequency filtering, electro- and magneto-optic modulation, fiber propagation and related experiments. Prerequisite: 428 or consent of instructor.

470-1 to 3 Special Projects. Each student chooses or is assigned a definite investigative project or topic. Prerequisite: 310, 320 or consent of instructor.

Physics Faculty

Ali, Naushad, Professor, Ph.D., University of Alberta, 1984.

Cutnell, John D., Professor, *Emeritus*, Ph.D., University of Wisconsin, 1967.

Gruber, Bruno J., Professor, *Emeritus*, Ph.D., University of Vienna, Austria, 1962.

Henneberger, Walter C., Professor, *Emeritus*, Ph.D., Göttingen University, Germany, 1959.

Johnson, Kenneth W., Professor, Ph.D., Ohio State University, 1967.

Malhotra, Vivak, Professor, Ph.D., Indian Institute of Technology, Kanpur, 1978.

Masden, J. Thomas, Associate Professor, Ph.D., Purdue University, 1983.

Malik, F. Bary, Professor, Ph.D., Gottingen University, West Germany, 1958.

Migone, Aldo, Professor, Ph.D., Pennsylvania State University, 1984.

Nickell, William E., Professor, *Emeritus*, Ph.D., University of Iowa, 1954.

Sanders, Frank C., Associate Professor, Ph.D., University of Texas, 1968.

Saporoschenko, Mykola, Professor, *Emeritus*, Ph.D., Washington University, 1958.

Tao, Rongjia, Professor, Ph.D., Columbia University, 1982.

Tata, Darrel B., Assistant Professor, Ph.D., University of Illinois at Urbana-Champaign, 1991.

Watson, Richard E., Professor, *Emeritus*, Ph.D., University of Illinois, 1938.

Physiology (Department, Major, Courses)

The Department of Physiology offers training in mammalian, cellular and comparative physiology, pharmacology, biophysics, and human anatomy. Students majoring in physiology are encouraged to gain research experience under faculty supervision. The undergraduate major provides general rather than specialized training in physiology. To become a professional physiologist usually requires the completion of an advanced degree in the field. An undergraduate major in physiology would provide an excellent foundation for those planning a career in teaching or research or a medical field such as medicine, dentistry, veterinary science, nursing or medical technology. Students considering a major in Physiology should discuss their program with the undergraduate adviser in the Department of Physiology.

Bachelor of Arts Degree, College of Science

<i>University Core Curriculum Requirements</i>	41 ¹
<i>College of Science Requirements</i>	6
Supportive Skills to include foreign language (two semesters at 200 level) ² ; and two from the following: English 290 or 291 or 391 or 491; Plant Biology 360 or Mathematics 282 or 283; Computer Science 200, 201	
<i>Requirements for Major in Physiology</i>	(11) + 59 ¹
Physiology 410a,b; 490	11
Physiology electives (14 hours at the 300 or 400-level)	(2) + 12 ¹
Biology 200a,b ¹	(3) + 3
Biology 305, 306, 308, 309 (any two)	6
Chemistry 200, 201, 210, 211, 340, 341, 350 (with lab)	(3) + 14 ¹
Physics 203a,b; 253a,b	8
Mathematics 150 ^{1,3} , 250	(3) + 5
<i>Electives</i>	14
<i>Total</i>	120

¹Total of eleven hours of biology, chemistry, mathematics and physiology elective course work are accounted for in the 41-hour Core Curriculum requirement.

²If two years of a foreign language are taken to complete this requirement, the total hours will be 16. The elective hours are reduced by 10 hours.

³Prerequisites are Mathematics 111 or Mathematics 108 or 109. The elective hours are reduced by 3-6 hours for students who place into a course lower than calculus.

Physiology Suggested Curricular Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
BIOL 200b	-	3	BIOL 200a, 300-level	3	3
CHEM 200, 201	4	-	Humanities	-	3
CHEM 210, 211	-	4	MATH 150, 250	4	4
ENGL 101, 102	3	3	PHSL 492	1	1
MATH 108, 109	3	3	PHYS 203a, 253a	4	-
Social Science	3	3	PHYS 203b, 253b	-	4
Elective	2	-	SPCM 101	3	-
<i>Total</i>	15	16	<i>Total</i>	15	15

THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
BIOL 300-level.....	-	3	Interdisciplinary.....	3	-
CHEM 340, 341	5	-	PHSL 410a,b.....	5	5
CHEM 350	-	4	PHSL Elective.....	3	2
Fine Arts.....	3	-	Supportive Skill.....	3	3
Humanities.....	3	-	PHSL 490	-	1
Multicultural	-	3	Electives	-	4
PHSL 310, 301	5	4			
Total.....	16	14	Total.....	14	15

Minor

A minor in physiology requires completion, with at least a C grade, of Physiology 410 (10 hours) and six hours of 300 or 400-level courses offered by the department.

Junior-Senior Honors Program

Juniors who have shown outstanding ability in biology courses and related subjects in their freshman and sophomore years may apply for acceptance into the honors program. Honors students do independent study in the physiological sciences (Physiology 491) during their junior and senior years.

Courses (PHSL)

201-3 Human Physiology. (University Core Curriculum) [IAI Course: L1 904] A course which relates the normal function of the human body to the disruptions which occur in a variety of disease states. Three lecture hours per week. Not open to students who have taken 310.

208-1 Laboratory Experiences in Physiology. [IAI Course: L1 904L] Laboratory course which provides experiences with small animal experimentation and measurements made on the human subject. One two-hour laboratory per week. Prerequisite: completion of, or current enrollment in, 201.

257-1 to 6 Concurrent Work Experience. Under exceptional circumstances, and with prior approval of the departmental chair, credit may be granted for practical experience or other work directly related to physiology. Mandatory Pass/Fail.

258-1 to 6 Previous Work Experience. Under exceptional circumstances, and after petition to the departmental chair, credit may be granted for practical experience or other work directly related to physiology. Mandatory Pass/Fail.

259-2 to 8 Occupational Education Credit. Under special circumstances, advanced training in a paramedical or other field directly related to physiology can be used as a basis for granting credit in physiology. Such credit is sought by petition to the chair of the department and requires approval of the dean of the College of Science.

300-3 Human Musculoskeletal Anatomy. Lectures, demonstrations and observations of human muscles, supporting tissues and nerves. Primarily for physical education and physical therapy students. Offered in fall and spring semesters.

301-4 Survey of Human Anatomy. Lectures, demonstrations, and observations of the prosected body, plus experiences in the anatomy laboratory. Course is designed for students in nursing, mortuary science, biological science, and related disciplines. Three lecture hours and one two-hour laboratory per week. Not open to students who have taken 300.

310-5 Principles of Physiology. Beginning course in human physiology designed for majors in physiology and other biological sciences, and recommended to premedical and other students considering biological sciences and health professions. Three lectures per week, one hour discussion and one two-hour laboratory. Prerequisite: one year of biological science and a reasonable knowledge of chemistry.

320-3 Reproduction and Sexuality. Comprehensive course examining the physiological basis of mammalian reproduction and the behavioral aspects of sexuality. Human sexuality and reproductive function is the primary focus. Topics include hormonal control, anatomy, ovulation, sexual response and behavior, fertilization, pregnancy and parturition. Human specific topics include reproductive medicine, STDs, paraphilias, birth control and infertility. Prerequisite: one year of biology or permission of instructor.

400-6 (3,3) Concepts in Anatomy. A detailed survey of human anatomy for preprofessional students with an interest in the biomedical disciplines, including radiographic, cross-sectional, and developmental anatomy. Three lectures per week. Should be taken in a,b sequence. Prerequisite: 301 and senior standing or consent of instructor.

401-6 (3,3) Advanced Human Anatomy Laboratory. Laboratory dissection of the human body (six hours per week). Primarily for students majoring in physiology or other biological sciences, anthropology, etc. Prerequisite: 400 or concurrent enrollment.

410-10 (5,5) Mammalian Physiology. Physical and chemical organization and function in mammals, with emphasis on the human. Physiology of blood and circulation, respiration, digestion, metabolism, excretion,

endocrines, sensory organs, nervous system, muscle and reproduction. Primary course for all students majoring in physiology or related sciences. Four lectures and one three-hour laboratory session per week. May be taken in any sequence. Prerequisite: college level chemistry and physics and at least junior standing.

420-6 (3,3) Principles of Pharmacology. (a) Covers absorption, distribution, and metabolism of drugs and the action of certain drug classes on the living organism. Classes of drugs to be discussed include drugs affecting the autonomic nervous system, drugs used to treat neurological and psychiatric disorders, local anesthetics, neuromuscular blocking agents, and analgesics. Two lectures per week and one two-hour laboratory. Prerequisite: 310 or 410; 410 may be taken concurrently; organic chemistry. Some knowledge of biochemistry is needed. (b) Involves a discussion of the physiological and biochemical action of various classes of drugs. Classes of drugs to be discussed include general anesthetics, antihistaminics, diuretics, antibiotics, drugs used to treat cardiovascular disorders, and drugs affecting the endocrine system. Prerequisite: 420a; 310 or 410; organic chemistry.

430-6 (3,3) Cellular Physiology. Examination of the chemical and physical characteristics of eukaryotic cells and how they regulate cell function. Cellular physiology integrates studies of gene expression, protein function, organelle structure and cell differentiation for a more complete understanding of the role of the cell in tissue, organ and whole animal function. Prerequisite: organic chemistry or biological chemistry.

433-6 (3,3) Comparative Physiology. Variations of physiological processes in animal phyla, and comparison of these with human physiology. (a) Osmotic and ionic regulation; digestion, nutrition, and metabolism; excretion; respiration; defense and resistance. (b) Muscles and movement; circulation; nervous systems and sensory information; coverings and support; endocrine regulation; reproduction. Three lectures per week. Prerequisite: one year of biological science.

440-6 (3,3) Biophysics. (a) Biomathematics, biomechanics and biotransport. (b) Bioelectrics and bio-optics applied to physiological problems. Three lectures per week. Prerequisite: Mathematics 141 or equivalent; one year of college biological science including Physiology 310 or its equivalent; one year of college physics. May be taken in b,a sequence with consent of instructor.

460-2 Electron Microscopy. Lecture course designed to introduce the student to the theory and principles of electron microscopy. Two lecture hours per week. Prerequisite: senior standing or permission of instructor.

462-3 Biomedical Instrumentation. (Same as Electrical Engineering 462.) Diagnostic and therapeutic modalities related to engineering. Cardiovascular, neural, sensory and respiratory instrumentation. Prerequisite: consent of instructor.

470-3 Biological Clocks. Study of the temporal aspects of diverse physiological and behavioral functions which possess diurnal and sectional periodicity. Species covered will include many eukaryotic organisms including plants, but will mainly stress mammals. Oscillations in sleep-wake cycle, locomotion, reproduction, hormonal secretion and numerous other processes will be explored. In addition, the effects of biological clocks in humans and the effect of jet lag and depression will be examined. Prerequisite: 310.

490-1 Senior Seminar. Readings, writings, presentations and discussions of current topics in physiology. One hour per week. Not for graduate credit. Prerequisite: senior standing or consent of instructor.

491-3 to 8 Independent Research for Honors. Supervised readings and laboratory research in physiology directed by a member of the physiology faculty. Undergraduate honors students only. By special arrangement with the instructor in the physiology department with whom the student wishes to work.

492-1 to 8 Special Problems in Physiology. Supervised readings and laboratory research in physiology directed by a member of the physiology faculty. Open to undergraduate students only. By special arrangement with the instructor in the physiology department with whom the student wishes to work. No more than 3 hours may be counted as electives towards the major in physiology.

Physiology Faculty

Arbogast, Lydia A., Assistant Professor, Ph.D., Indiana University, 1988.

Banerjee, Chandra M., Professor, *Emeritus*, M.D., University of Calcutta, 1959; Ph.D., Medical School of Virginia, Richmond, 1967.

Bartke, Andrzej, Professor and *Chair*, Ph.D., University of Kansas, 1965.

Browning, Ronald A., Professor, Ph.D., University of Illinois Medical Center, Chicago, 1971.

Collard, Michael W., Assistant Professor, Ph.D., Washington State University, 1987.

Coulson, Richard L., Professor, Ph.D., University of Toronto, 1971.

Cox, Thomas C., Professor, Ph.D., Arizona State University, 1979.

Dunagan, Tommy T., Professor, *Emeritus*, Ph.D., Purdue University, 1960.

Ellert, Martha S., Associate Professor, Ph.D., University of Miami, 1967.

Falvo, Richard E., Professor, Ph.D., University of Wyoming, 1970.

Ferraro, James S., Associate Professor, Ph.D., The Chicago Medical School, 1984.

Huggenvik, Jodi I., Assistant Professor, Ph.D., Washington State University, 1985.

Hunter, William S., Associate Professor, Ph.D., Michigan State University, 1971.

Johnson, Anne K., Instructor, M.S., Ohio State University, 1962.

Murphy, Laura L., Assistant Professor, Ph.D., Medical College of Georgia, 1983.

Myers, J. Hurley, Professor, Ph.D., University of Tennessee, Health Science Center at Memphis, 1969.

Nequin, Lynn G., Associate Professor, Ph.D., University of Illinois, College of Medicine, Chicago, 1970.

Russell, Lonnie D., Professor, Ph.D., University of Nebraska, 1974.

Shanahan, Michael F., Professor, Ph.D., University of Michigan, 1976.

Sollberger, Arne R., Professor, *Emeritus*, M.D., Karolinska Institute, Sweden, 1957.

Steger, Richard W., Professor, Ph.D., University of Wyoming, 1974.

Wade, David R., Associate Professor, Ph.D., Cambridge University, England, 1967.

Yau, William M., Professor, Ph.D., Medical College of Virginia, 1971.

Youther, Michael L., Instructor, M.S., Southern Illinois University, 1975.

Plant and Soil Science (Major, Courses)

The plant and soil science major is administered through the Plant, Soil and General Agriculture department. The program includes concentrations in crop science, horticulture science and soil science. There are many widely varied opportunities for students with an interest in plants or soils. Students may choose a general option within the department and select most of their upper division credits from a wide choice of electives throughout the College of Agriculture and the University. If interests are more specialized, students may elect the science option and specialize in one particular area, or may elect a specialization which will combine a broad background in plants and soils with selected business courses and business related electives. A specialization in environmental studies would familiarize the student with environmental problems relating to plants and soils.

Students selecting the landscape horticulture specialization can prepare for interesting careers in landscaping or gardening in parks, playgrounds, residential or industrial areas, road and street parkway improvement and maintenance, and in other public and private work to make the environment more pleasing and useful.

Opportunities for individual program development within the various options may be realized through work experience, internships, special studies, and seminars; however, no more than 30 hours of such unstructured coursework may be counted toward the degree. Students in all specializations are urged to make use of them to meet the goals and needs of their respective programs.

Students in all specializations must complete the plant and soil science core. These courses are Plant and Soil Science 200, 220, 240, one hour of 381, and General Agriculture 318 or 418 or an acceptable substitute.

There may be extra expenses for field trips, manuals, or supplies in some courses.

Bachelor of Science Degree, College of Agriculture	SPECIALIZATIONS		
	General	Science	Business
University Core Curriculum Requirements	43 ⁴	43 ⁴	43 ⁴
Foundation Skills			
English 101 and 102	6	6	6
Mathematics 113	3	—	3
Mathematics 108 ¹	—	3	—
Speech Communication 101	3	3	3
Disciplinary Studies			
Fine Arts	3	3	3
Human Health	2	2	2
Humanities	6	6	6
Science ⁴			
Chemistry 140a substitutes for Chemistry 106	4	—	4
Chemistry 200 and 201 substitutes for Chemistry 106	—	4	—
Plant Biology 200 substitutes for Plant Biology 115	4	4	4
Social Science			
Agribusiness Economics 204 substitutes for 1 Social Science requirement	3	3	3
Psychology 102	—	—	3

Bachelor of Science Degree, College of Agriculture	SPECIALIZATIONS		
	General	Science	Business
Anthropology 104, Geography 103, History 110, 112, Political Science 114, Psychology 102 or Sociology 108	3	3	—
Integrative Studies			
Multicultural: Diversity in the U.S.	3	3	3
Interdisciplinary	3	3	3
<i>Requirements for Major in Plant and Soil Science</i>	58	73	69
Course in one other major other than General Agri- culture or Plant and Soil Science	3	3	3
General Agriculture 318 (or approved substitute).....	3	3	3
Physics 203a ² and b (or approved substitute).....	—	6	—
Plant Biology 320	4	4	4
Chemistry 140b	4	—	4
Chemistry 210, 211, 340, 341, 350	—	13	—
Mathematics 109, 140	—	7	—
Plant and Soil Science 200, 220, 240, 381-1	11	11	11
Other Plant and Soil Science courses at 300- and 400- level ³	21	21	21
Other Agriculture electives	12	5	7
Accounting 210, Management 301 or 304, Marketing 304 or Agribusiness Economics 360, Agribusi- ness Economics 333 or Agriculture 323	—	—	11-12
Business electives and supporting courses	—	—	4-5
<i>Electives</i>	19	4	8
<i>Total</i>	120	120	120

¹Mathematics 111 may be substituted.

²Physics 205a may be substituted.

³Plant and Soil Science electives must include 18 hours of structured coursework at the 300- or 400-level, with no less than 12 hours at the 400-level.

⁴The University Core Curriculum requires 41 hours of courses. Chemistry and Plant Biology are 4 hour courses, but only 3 hours count toward core curriculum requirements.

Plant and Soil Science, General Specialization Suggested Curricular Guide

FIRST YEAR			SECOND YEAR		
	FALL	SPRING		FALL	SPRING
CHEM 140a	4	—	Multicultural	3	—
PLB 200	—	4	Humanities	3	3
ABE 204	—	3	Agriculture Elective	—	3
Computer Requirement	3	—	PLSS 200	—	3
Fine Arts	3	—	MATH 113	3	—
Social Science	—	3	SPCM 101	—	3
ENGL 101, 102	3	3	PLSS 220	3	—
Human Health	2	—	PLSS 240	—	4
Interdisciplinary	—	3	CHEM 140b	4	—
<i>Total</i>	15	16	<i>Total</i>	16	16
THIRD YEAR			FOURTH YEAR		
	FALL	SPRING		FALL	SPRING
PLB 320	4	—	PLSS 381	1	—
Agriculture Elective	3	6	PLSS Upper Level Course	3	6
PLSS Upper Level Courses	6	6	Open Electives	10	9
AG Elective (no PLSS or GNAG)	—	3			
<i>Total</i>	13	15	<i>Total</i>	14	15

Plant and Soil Science, Science Specialization Suggested Curricular Guide

FIRST YEAR		FALL	SPRING	SECOND YEAR		FALL	SPRING
PLB 200	-		4	PHYS 203a,b	3		3
CHEM 200, 201	4		-	CHEM 210, 211	-		4
CHEM 340, 341	-		5	PLSS 200, 220	6		-
ENGL 101, 102	3		3	PLSS 240	-		4
MATH 108, 109	3		3	ABE 204	3		-
Computer Requirement	3		-	MATH 140	-		4
Fine Arts	3		-	SPCM 101	3		-
Total	16		15	Total	15		15
THIRD YEAR		FALL	SPRING	FOURTH YEAR		FALL	SPRING
PLB 320	4		-	PLSS 381	1		-
CHEM 350	-		4	Upper Level Courses	6		9
Agriculture Elective	3		2	Social Science	-		3
PLSS Upper Level Courses	3		3	Humanities	3		3
Human Health	2		-	Open Electives	4		-
Multicultural	3		-				
Interdisciplinary	-		3				
Agricultural Elective(no PLSS or GNAG)	-		3				
Total	15		15	Total	14		15

Plant and Soil Science, Business Specialization Suggested Curricular Guide

FIRST YEAR		FALL	SPRING	SECOND YEAR		FALL	SPRING
CHEM 140a	4		-	Multicultural	3		-
Computer Requirement	3		-	Interdisciplinary	-		3
ABE 204	-		3	Fine Arts	-		3
PSYC 102	3		-	MATH 113	3		-
PLB 200	-		4	SPCM 101	-		3
Humanities	-		6	Required Business Course	3		-
ENGL 101, 102	3		3	PLSS 200, 220	3		3
Human Health	2		-	PLSS 240	-		4
Total	15		16	CHEM 140b	4		-
				Total	16		16
THIRD YEAR		FALL	SPRING	FOURTH YEAR		FALL	SPRING
PLB 320	4		-	PLSS 381	-		1
Required Business Courses	3		2	PLSS Upper Level Courses	6		6
Agriculture Elective	4		3	Required Business Course	-		3
PLSS Upper Level Courses	3		6	Elective Business Courses	4		-
Agricultural Elective (no PLSS or GNAG)	-		3	Electives	4		4
Total	14		15	Total	14		14

Bachelor of Science Degree, College of Agriculture

University Core Curriculum Requirements	
Foundation Skills	
English 101 and 102	6
Mathematics 113	3
Mathematics 108 ¹ substitutes for 110 or 113	-
Speech Communication 101	3
Disciplinary Studies	
Fine Arts	3
Human Health	2
Humanities	6
Science ³	

SPECIALIZATIONS	
Landscape Horticulture	Environmental Studies
43 ³	43 ³

6	6
3	-
-	3
3	3
3	3
2	2
6	6

Bachelor of Science Degree, College of Agriculture

	SPECIALIZATIONS	
	Landscape <u>Horticulture</u>	Environmental <u>Studies</u>
Chemistry 140a substitutes for Chemistry 106	4	—
Chemistry 200 and 201 substitutes for Chemistry 106	—	4
Plant Biology 200 substitutes for Plant Biology 115	4	4
Social Science		
Agribusiness Economics 204 substitutes for 1 Social Science requirement	3	3
Anthropology 104, Geography 103, History 110, 112, Political Science 114, Psychology 102 or Sociology 108	3	3
Integrative Studies		
Multicultural: Diversity in the U.S.	3	3
Interdisciplinary	3	3
Requirements for Major in Plant and Soil Science	67-68	72-74
Biology 307	3	3
Plant Biology 320 and 356	8	8
Chemistry 140b	4	—
Chemistry 210, 211, 340, 341 and 350	—	12-13
General Agriculture 371, 374	4	—
General Agriculture 318	3	3
Zoology 316	3	3
Agriculture 333	—	2
Agribusiness Economics 401	—	3
Geography 471 and 434 or Civil Engineering 310	—	7
Political Science 445 or Geography 320 ² or 426 ..	—	3-4
Mathematics 109 ¹ and 140	—	7
Plant and Soil Science 200, 220, 240, 381-1, 420, 447, 468	—	21
Plant and Soil Science 200, 220, 240, 322, 327, 328a,b, 381-1, 428, 429, 432 or 434	30-31	—
Agriculture electives	12	—
Electives	9-10	3-5
Must be selected from Plant and Soil Science 305, 322, 325, 423, 430, 432, 436, 437, 441, 445, 446, 448 or 454		
Total	120	120

¹Mathematics 111 may be substituted.
²Requires permission from Plant and Soil Science chair.
³The University Core Curriculum requires 41 hours of courses. Chemistry and Plant Biology are 4 hour courses, but only 3 hours count toward University Core Curriculum requirements.

Landscape Horticulture Specialization Suggested Curricular Guide

FIRST YEAR			SECOND YEAR		
	FALL	SPRING		FALL	SPRING
CHEM 140a, PLB 200	4	4	PLSS 200, 220	3	3
ABE 204.....	-	3	GNAG 371	2	-
Computer Requirement	3	-	GNAG 374	2	-
Social Science, Multicultural	3	3	CHEM 140b, PLSS 240.....	4	4
MATH 113	-	3	SPCM 101.....	-	3
Human Health	2	-	Fine Arts.....	-	3
ENGL 101, 102	3	3	Humanities	3	3
Total.....	15	16	Total.....	14	16
THIRD YEAR			FOURTH YEAR		
	FALL	SPRING		FALL	SPRING
PLB 320	-	4	PLSS 428	3	-
PLB 356	-	4	PLSS 429	-	3
PLSS 328a,b.....	4	-	PLSS 381	1	-
PLSS 327.....	3	-	BIOL 307.....	-	3
ZOOL 316	3	-	Interdisciplinary.....	-	3
PLSS 432.....	-	3	PLSS Electives (400-Level)	4	-
PLSS 322.....	3	-	Agriculture Elective.....	6	6
PLSS Electives	3	3	Total.....	14	15
Total.....	16	14			

Environmental Studies Specialization Suggested Curricular Guide

FIRST YEAR			SECOND YEAR		
	FALL	SPRING		FALL	SPRING
PLB 200	4	-	Multicultural	-	3
CHEM 200, 201	4	-	Humanities	3	-
CHEM 340, 341	-	5	CHEM 210, 211.....	4	-
ABE 204.....	-	3	MATH 108, 109	3	3
Computer Requirement	3	-	SPCM 101.....	-	3
BIOL 307	-	3	PLSS 200	3	-
ENGL 101, 102	3	3	AGRI 333.....	-	2
Human Health	2	-	PLSS 240	-	4
Total.....	16	14	PLSS 220	3	-
Total.....			Total.....	16	15
THIRD YEAR			FOURTH YEAR		
	FALL	SPRING		FALL	SPRING
PLB 320	4	-	PLSS 420	4	-
PLB 356	-	4	PLSS 468	-	3
ABE 401.....	4	-	PLSS 447	-	3
MATH 140	4	-	PLSS 381	1	-
CHEM 350	-	4	CE 310.....	-	3
GEOL 426.....	-	4	ZOOL 316.....	3	-
Fine Arts.....	3	-	Major Course	-	3
Humanities	-	3	Social Science.....	3	-
Total.....	15	15	GEOG 471	-	3
			Interdisciplinary.....	3	-
			Total.....	14	15

Minor

A minor in plant and soil science is also available to those interested in field crop production, horticulture, or soils. A total of 16 hours of credit is required with at least 12 hours taken at the University. One course may be selected from 200, 220, or 240; and at least eight hours from 300- or 400-level structured courses. The chair should be consulted for assistance in selecting this field as a minor.

Certification

Professional standards are needed for those whose activities affect the well-being of the general public. Such standards have been in use in medicine, law, engineering, etc. for many years. A certification program that identifies professionals for educational, scientific and service activities with public and private agencies is in the public interest. Certification assures that a student meeting these requirements is highly qualified in their discipline. It is becoming more common that employers require a

student be certified as a condition of employment. The American Society of Agronomy through ARCPACS maintains and publishes a registry of certified professionals in several disciplines. Students may be certified as agronomist, crop scientist (specialist), or soil scientist, (specialist, classifier), or horticulturist by completing a program approved by ARCPACS: Federation of Certifying Boards in Agriculture, Biology, Earth and Environmental Sciences. Students with any of the above specializations may complete the certification academic requirements, although those with a science specialization will find they can complete the program with a few hours beyond the number required for a bachelor degree. Most of the certification requirements can be completed with proper selection of courses as University Core Curriculum substitutes and by using elective courses to fulfill certification requirements. Students are encouraged to discuss their interests with a departmental representative to obtain additional information.

	AREA OF CERTIFICATION ¹			
	Agronomist	Crop Scientist	Soil Scientist	Horticulturist
<i>University Core Curriculum Requirements</i>	43 ²	43 ²	43 ²	43 ²
Physics 203a substituted for				
Physics 101	3	3	3	—
Chemistry 200 and 201 substitutes for				
Chemistry 106	4	4	4	4
Plant Biology 200 substitutes for Plant				
Biology 115	4	4	4	4
Agribusiness Economics 204 substitutes for				
Economics 113	3	3	3	3
English 101 and 102	6	6	6	6
Speech Communication 101	3	3	3	3
Mathematics 108 ³	3	3	3	3
Other University Core Curriculum requirements	17	17	17	20
<i>Requirements for Major in Plant and Soil Science</i>	77	77	77	77
Courses in two other departments in agriculture (All options must take General Agriculture 318. It fulfills additional mathematics requirements for Agronomist and Soil Scientist options)	6	6	6	—
Biological science elective	2	4	—	—
Plant Biology 320	4	4	4	4
Chemistry 210, 211, 340, 341, 350,	9	9	9	9
Economics elective	3	3	—	—
Agribusiness Economics 333	—	—	—	3
Engineering elective	—	—	3	—
Geology 220	—	—	3	—
Plant and Soil Science 305	—	—	—	4
Plant and Soil Science 200, 220, 240, 381	11	11	11	11
Pest management/plant protection (weed science, plant pathology/entomology, pest control, Plant and Soil Science 420)	6	6	—	6
Mathematics (including statistics requirement) 140 and 283	7	7	7	—

	AREA OF CERTIFICATION ¹			
	Agrono- mist	Crop Scientist	Soil Scientist	Horti- culturist
Other Plant and Soil Science courses: ⁴				
Crop sciences	3	12	3	—
Soil sciences.....	3	3	11	—
Agronomy electives	9	3	3	—
Horticulture				
Plant and Soil Science 322, 423, 424, 432, 436, 437	—	—	—	12
Plant and Soil Science 442, 445, 446, 447, 448	—	—	—	3
Plant and Soil Science 325, 327, 328a, 328b, 422, 428, 429, 430, 434	—	—	—	6
Plant and Soil Science 405, 433, Plant Biology 356, 400, 409, General Agriculture 318 ⁵	—	—	—	6
Agriculture electives	11	6	14	13
Total	120	120	120	120

¹Meets academic requirements for certification by ARCPACS: Federation of Certifying Boards in Agriculture, Biology, Earth and Environmental Sciences (includes Agronomy, Crop Science, Soil Science, Horticulture and other disciplines).
²The University Core Curriculum requires 41 hours of courses. Chemistry and Plant Biology are 4 hour courses, but only 3 hours count toward core curriculum requirements.
³Mathematics 111 may be substituted.
⁴Plant and Soil Science electives must include 18 hours of structured coursework at the 300- or 400- level with no less than 12 semester hours at the 400 level.
⁵General Agriculture 318 or equivalent computer course is a departmental requirement.

Courses (PLSS)

200-3 Introduction to Crop Science. [IAI Course: AG 903] Production of important field crops of the world with greatest emphasis on U.S. and midwestern field crops; crop production changes and adjustments, crop distribution over U.S., and crop groups and classifications, special agronomic problems, crop enemies, crop ecology, fertilizer and liming practices, tillage, crop improvement through breeding. Field trip (no cost).
220-3 General Horticulture. [IAI Course: AG 905] General principles of plant propagation, vegetable growing, fruit growing, landscape gardening, and floriculture. Seniors cannot enroll without consent of instructor. Prerequisite: Plant Biology 200 or equivalent.
225-2 Genetics for the Amateur Gardener. An introduction to the essential principles of genetics and plant hybridization utilizing common garden and house plants.
228-2 Floral Arrangements. Theory and practice in the art of flower and plant arrangement for the home, show, and special occasions. History, elements, and principles of design and use of color. Laboratory fee approximately \$25.
238-2 Home Gardening. Vegetable gardening techniques for the home gardener. Both inorganic and organic methods are used together with the latest recommended varieties for the small garden.
240-4 Soil Science. [IAI Course: AG 904] Basic and applied chemical, physical, and biological concepts in soils. The origin, classification and distribution of soils and their relationship to humans and plant growth. Prerequisite: Chemistry 140b or equivalent; geology suggested.
257-1 to 10 Work Experience. Credit for on-campus work experience in the areas of plant and soil science, or credit through a cooperative program developed between the department and the Office of Student Work and Financial Assistance. Credit awarded based on 4 hours of work per week during the semester for each hour of credit. Prerequisite: consent of instructor. Mandatory Pass/Fail.
300-5 (2,3) Field Crop Production. Principles of growth and production of field crops and their utilization. (a) Primarily corn and soybeans. (b) Small grains, primarily wheat and grain sorghum, with laboratory demonstrating principles discussed in both a and b including research projects, and grading and utilization of grain. Laboratory field trips, approximately \$5. Prerequisite: an introductory crops course or consent of instructor.
305-4 Plant Genetics. Principles of genetics and evolution of plants, elementary plant breeding, and the interaction between plant breeding and industry. Prerequisite: a course in biology or plant biology.
322-3 Turfgrass Management. Principles and methods of establishing and maintaining turfgrass for lawns, recreational areas, and public grounds. Identification of basic plant and soil materials and management of turfgrasses in variable environments. Prerequisite: a biology course.
325-3 Garden Flowers. Culture, identification, and use of flowering bulbs, annuals, biennials, and perennials in the home flower garden. Prerequisite: an introductory course in biology or consent of instructor.
327-3 Landscape Plant Materials. Identification, usage and adaptability to the landscape of woody (deciduous

and evergreen) and ornamental shrubs, trees and vines. Use of plant keys. Laboratory fee \$10. Prerequisite: an introductory botany course or consent of instructor.

328A-2 Appreciation of Landscape Design. Introduction to theory and principles of landscape design as applied to the modern home. Property selection and climate control. Prerequisite: 327 and Agriculture Education and Mechanization 371 and 374 or equivalent.

328B-2 Appreciation of Landscape Design - Laboratory. Practical application in modern methods of property planning including the individual components of the completed landscape plan and selection of plants. Laboratory fee: \$20. Prerequisite: 327 and Agriculture Education and Mechanization 371 and 374 or equivalent.

333-3 Vines and Wines. Introduction to grape growing; making, using and appreciation of wine for pleasure, health and profit. Discovering both the science and art of growing, making and using wine. Practical, hands-on approach with emphasis placed on preparing the novice to begin a successful journey through the wonderful world of grapes and wines. A minimum of two field trips (on Saturday) required. Offered fall semester only.

356-4 Plant Pathology. (Same as Plant Biology 356.) A study of the nature and control of plant diseases. Fungal and bacterial diseases are stressed. Field crop diseases are emphasized. Two lectures and two laboratories per week. Prerequisite: Plant Biology 200 or equivalent; Plant Biology 320 recommended.

359-1 to 6 Intern Program. Supervised work experience program in either an agricultural agency of the government or agri-business. Prerequisite: junior standing and approval of department. Mandatory Pass/Fail.

370-3 Agroecology-Sustainable Agricultural Systems. An introduction to the biotic, natural resource, environmental, social and economic implications and requirements of sustainable agriculture. Prerequisite: an introductory course in plants, animals, soils, or biology or consent of the instructor.

380-4 (2,1,1) Plant and Soil Evaluations. (a) Grain grading to include crop and weed identification and seed identification and analysis. (b) Comparative evaluation and judging of horticultural crops to include flowers, fruits, vegetables, woody ornamentals. Field trip costing approximately \$25. (c) Soil evaluation to include identification of genetic horizons, their physical characteristics and classification. Field trips (no cost). These courses are not required for participation in SIU judging team activities.

381-1 to 2 (1,1) Plant and Soil Science Seminar. Discussion of special topics and/or problems in the various areas of plant and soil science. Prerequisite: Speech Communication 101 and junior standing.

390-1 to 4 Special Studies in Plant and Soil Science. Assignments involving research and individual problems. Prerequisite: consent of department chair.

391-1 to 4 Honors in Plant and Soil Science. Independent undergraduate research sufficiently important to three hours per week of productive effort for each credit hour. Prerequisite: junior standing, gpa of 3.0 with a 3.25 in the major, and consent of department chair.

400-2 Trends in Agronomy. A discussion session format will be employed as a means of acquainting students with recent literature and allowing them to remain current with latest developments in their area of specialty. Prerequisite: senior standing.

405-3 Plant Breeding. Principles of plant breeding emphasized together with their application to the practical breeding of agronomic, horticultural, and forest plants. Field trip costs approximately \$10. Prerequisite: 305 or equivalent.

408-3 World Crop Production Problems. Ecological and physiological factors influencing production in various areas of the world. Natural limitations on world crop production. Non-agricultural factors influence world crop output. Prerequisite: 200.

409-3 Crop Physiology and Ecology. The effects and significance of physiological and ecological parameters on crop yields. Prerequisite: Plant Biology 320 or consent of instructor.

419-3 Forage Crop Management. Forage crop production and utilization; forage crop characteristics, breeding, and ecology; grasslands as related to animal production, soil conservation, crop rotation, and land use. Field trip costs approximately \$5.00. Prerequisite: Plant Biology 200 or one course in biology or equivalent.

420-4 Crop Pest Control. Study of field pests of forest, orchard, field, and garden crops; pest control principles and methods; control strategy; and consequences of pest control operations. Prerequisite: introductory biology or crop science course and/or consent of department.

422-3 Turfgrass Science. Basic concepts of physiology, growth, and nutrition of turfgrasses and their culture. Application of turfgrass science to management of special turf areas such as golf courses, athletic fields, and sod farms; and to the turfgrass industry. Field trips cost approximately \$15. Prerequisite: 240 and 322 or equivalent or consent of instructor.

423-3 Greenhouse Management. Principles of greenhouse management controlling environmental factors influencing plant growth; greenhouses and related structures; and greenhouse heating and cooling systems. Field trips costing approximately \$5. Prerequisite: 220 or consent of instructor.

424-4 Floriculture. Production, timing, and marketing of the major floricultural crops grown in the commercial greenhouse. Each student will have an assigned project. Field trip costing approximately \$25. Prerequisite: 423 or consent of instructor.

425A-5 Advanced Plant Physiology. (Same as Plant Biology 425a.) Intermediary plant metabolism. Characterization of the photosynthetic and metabolic pathways of biosynthesis and degradation of organic constituents; role of environmental regulants of plant metabolism. Prerequisite: Plant Biology 320 or consent of instructor.

428-3 Advanced Landscape Design I. Development of the design process, graphics and verbal communication of landscape projects. Emphasis on large scale projects and residential design. Laboratory fee: \$25. Prerequisite: 328-4 or consent of instructor.

429-3 Advanced Landscape Design II. Development of the design process, graphics and verbal communication of landscape projects. Emphasis on construction details, color rendering and portfolio development. Laboratory fee: \$25. Prerequisite: 328-4 or consent of instructor.

- 430-4 Plant Propagation.** Fundamental principles of asexual and sexual propagation of horticultural plants. Actual work with seeds, cuttings, grafts, and other methods of propagation. Field trip costing approximately \$5. Laboratory fee: \$40.00. Prerequisite: 220.
- 432-4 Nursery Management.** Principles and practices involved in the propagation, production, and marketing of ornamental landscape plant materials. Emphasis on plant production with field trips to various production areas costing approximately \$40. Prerequisite: 220 and 327a, or consent of instructor.
- 433-4 Introduction to Agricultural Biotechnology.** (Same as Animal Science 433.) This course will cover the basic principles of plant and animal biotechnology using current examples; gene mapping in breeding, transgenic approaches to improve crop plants and transgenic approaches to improve animals will be considered. Technology transfer from laboratory to marketplace will be considered. An understanding of gene mapping, cloning, transfer and expression will be derived. Prerequisite: senior standing or consent of instructor.
- 434-3 Woody Plant Maintenance.** Care and management of ornamental shrubs and trees commonly used in the landscape. Topics to include trimming, pruning, fertilization, transplanting, and diagnosis of woody plant problems. Prerequisite: 327 or Forestry 202 or consent of instructor.
- 435-1 to 4 Agricultural Molecular Biotechnology Seminar.** Molecular biology is rapidly making important contributions to agricultural science through biotechnology. An appreciation of the techniques of molecular biology and their application to plant improvement is important to all in agriculture and biology. The relationships between plant molecular biology and the biotechnology industry will be discussed. Presentations on particular research problems will be made. Graded S/U.
- 436-4 Fruit Production.** Deciduous tree and small fruit growing, physiology, management practices, marketing. Prerequisite: 220 or consent of instructor.
- 437-4 Vegetable Production.** Culture, harvesting, and marketing of vegetables; with morphological and physiological factors as they influence the crops. Field trip costing approximately \$5. Prerequisite: 220 or consent of department.
- 441-3 Soil Morphology and Classification.** Development, characteristics, and identification of soils, study of profiles; and interpretation and utilization of soil survey information in land use planning. Field trip costing approximately \$5. Prerequisite: 240 or consent of instructor.
- 442-3 Soil Physics.** A study of the physical properties of soils with special emphasis on soil and water relationships, soil productivity, and methods of physical analysis. Prerequisite: 240.
- 443-3 Soil Management.** The soil as a substrate for plant growth. Properties of the soil important in supplying the necessary mineral nutrients, water and oxygen and for providing an environment conducive to plant root system elaboration. Soil management techniques that are important in optimizing plant growth. Prerequisite: 240.
- 445-3 Irrigation Principles and Practices.** This course will cover basic principles of irrigation sciences; water requirements of crops; soil water relationship; water application methods including flooding, sprinkler, and drip (or trickle) systems; water conveyance, distribution and measurement; evaluation of irrigation efficiency; and irrigation scheduling. Considerations will also include crop production effects and economic aspects of irrigation. Prerequisite: 240 or consent of instructor.
- 446-3 Soil and Water Conservation.** Covers the principles of hydrologic processes and soil erosion. Consideration will be given to the occurrence of soil erosion as it affects humans, food production, and the environment. The methods and technologies for protecting against and controlling of erosion will also be discussed. Prerequisite: 240 and University Core Curriculum Mathematics or consent of instructor.
- 447-3 Fertilizers and Soil Fertility.** Recent trends in fertilizer use and the implications of soil fertility build up to sufficiency and/or toxicity levels; the behavior of fertilizer material in soils and factors important in ultimate plant uptake of the nutrients; the plant-essential elements in soils and ways of assessing their needs and additions; tailoring fertilizer for different uses and management systems; implication of excessive fertilization in our environment. Prerequisite: 240, concurrent enrollment in 448 suggested.
- 448-2 Soil Fertility Evaluation.** A laboratory course designed to acquaint one with practical soil testing and plant analysis methods useful in evaluating soil fertility and plant needs. One hour lecture, two hours laboratory. Prerequisite: 240; 447 or concurrent enrollment; or consent of instructor.
- 454-4 Soil Microbiology.** (Same as Microbiology 454.) A study of microbial numbers, characteristics and biochemical activities of soil microorganisms with emphasis on transformations of organic compounds, nitrogen phosphorus, sulfur, iron, and other plant essential nutrients. Laboratory fee: \$15.00. Prerequisite: 240 or Microbiology 301.
- 468-3 Weeds – Their Control.** Losses due to weeds, weed identification and distribution, methods of weed dissemination and reproduction, mechanical, biological, and chemical control of weeds. State and Federal legislation pertaining to weed control herbicides. Herbicide commercialization. Field trips costing approximately \$5. Prerequisite: an introductory biology course.
- 470-2 Post Harvest Handling of Horticultural Commodities.** Fundamental principles of post harvest physiology, handling, and evaluation of horticultural commodities will be covered. Specific details will be given on vegetable, fruit, ornamental, and floricultural commodities. Field trip costing approximately \$30. Prerequisite: 220 and Plant Biology 320.

Plant and Soil Science Faculty

Chong, She Kong, Professor, Ph.D., University of Hawaii, 1979.	Elkins, Donald M., Professor, <i>Emeritus</i> , Ph.D., Auburn University, 1967.
Diesburg, Kenneth, Assistant Professor, Ph.D., Iowa State University, 1987.	Gibson, Paul T., Associate Professor, Ph.D., Iowa State University, 1981.

Henry, Paul H., Associate Professor, Ph.D., North Carolina State University, 1991.

Hillyer, Irvin G., Professor, *Emeritus*, Ph.D., Michigan State University, 1956.

Jones, Joe H., Professor, *Emeritus*, Ph.D., Ohio State University, 1960.

Kapusta, George, Professor, Ph.D., Southern Illinois University, 1975.

Klubek, Brian P., Professor, Ph.D., Utah State University, 1977.

Leasure, J. K., Professor, *Emeritus*, Ph.D., University of Illinois, 1953.

Lightfoot, David A., Associate Professor, Ph.D., University of Leeds, 1984.

McGuire, James M., Professor and *Dean*, Ph.D., North Carolina State University, 1961.

Midden, Karen L., Associate Professor, M.L.A., University of Georgia, 1983.

Myers, Oval, Jr., Professor, Ph.D., Cornell University, 1963.

Olsen, Farrel J., Professor, *Emeritus*, Ph.D., Rutgers University, 1961.

Preece, John E., Professor, Ph.D., University of Minnesota, 1980.

Russin, John S., Associate Professor, Ph.D., University of Kentucky, 1983.

Schmidt, Michael E., Assistant Professor, Ph.D., Southern Illinois University, 1994.

Stucky, Donald J., Professor and *Chair*, Ph.D., Purdue University, 1963.

Taylor, Bradley H., Associate Professor, Ph.D., Ohio State University, 1982.

Tweedy, James A., Professor, *Vice Chancellor of Administration*, Ph.D., Michigan State University, 1966.

Varsa, Edward C., Associate Professor, Ph.D., Michigan State University, 1970.

Walters, S. Alan, Assistant Professor, Ph.D., North Carolina State University, 1996.

Plant, Soil and General Agriculture (Department)

(SEE PLANT AND SOIL SCIENCE MAJOR AND GENERAL AGRICULTURE MAJOR.)

Plant Biology (Department, Major, Courses)

Plant Biology is the science of plant life, which ranges from the microscopic to giant Sequoia trees. You should consider a major in plant biology if you are curious about any of these: the kinds of plants that inhabit the earth; how they grow; why they are found where they are; and how or what products they contribute to the lives of humans.

A career in plant biology offers a number of specialties from which one may choose. This diversity allows people with different backgrounds, aptitudes and interests to find careers to their liking. A person with mathematical background might find systems ecology or genetics exciting fields. Persons with an appetite for the out-of-doors might be happy as an ecologist, forester, plant explorer, or preservationist of rare and endangered species. Those who appreciate detail and beauty found in plant structure would find happiness in cell study, anatomy and morphology. Someone with an interest in chemistry could become a plant physiologist, plant biochemist or molecular plant biologist. Those who find an interest in aquatic microscopic forms will study algae. Those with an interest in fungi become mycologists. Those who enjoy mosses will study bryology. All of these fields offer great opportunities to interact with people and have a wide range of employment opportunities in teaching, research, and government service.

Students planning to major in plant biology should consult with the chair of the department for information concerning the programs in the department.

As a general rule, students who intend to apply for admission to a graduate school to study for an advanced degree in plant biology should include the following in their undergraduate program: inorganic and organic chemistry, mathematics through calculus, a modern European language, and as many plant biology and biology courses as time and scheduling will permit.

An honors program is available to those juniors and seniors in plant biology who have an overall grade point average of 3.00 or better and an average in plant biology

courses of 3.25 or better. Honors students should enroll in Plant Biology 492 during some semester in both junior and senior years.

The department specifies that the College of Science six hour supportive skills requirement is to be met by completing two designated courses or a foreign language sequence. The two designated courses are to be selected from the following: English 291, Computer Science 200, 201, 202, 212. The foreign language requirement can be met by one of the following: (a) passing an eight-hour 100-level sequence in any one foreign language offered at Southern Illinois University Carbondale; (b) by earning eight hours of 100-level credit in any one foreign language offered at Southern Illinois University Carbondale by proficiency examination; or (c) completing three years of one foreign language in high school with no grade lower than C.

A student whose native language is not English may use the native language to satisfy part or all of the plant biology foreign language requirement at the University. If the language is presently taught at Southern Illinois University, academic credit may be earned. If the language is not presently taught at the University, no credit is given, but partial or full satisfaction of the plant biology foreign language requirement may be granted if the plant biology department so recommends. A student whose native language is English but who has learned another language not taught at the University may qualify without credit for partial or full satisfaction of the plant biology foreign language requirement under certain circumstances, including formal recommendation by the plant biology department and availability of an examiner and examination materials within the Department of Foreign Languages and Literature. For information, the student should consult the department undergraduate advisor and/or the College of Science advisement center.

Bachelor of Arts Degree, College of Science

University Core Curriculum Requirements	41 ¹
College of Science Academic Requirements	7-11
Supportive Skills,	6-8
Mathematics 108 and 109 or 111 (or its equivalent) or 141	(3) + 1-3
Requirements for Major in Plant Biology	48 ²
Biology 200a, 200b, 305, 306, 307	15 ³
Plant Biology 300, 304, 320	12
Plant Biology Electives	16
Sixteen hours selected from the following with at least one course from each group:	
A. 356, 400, 404, 405, 406, 414, 415, 421	
B. 409, 410, 430, 439, 449, 450, 451, 485	
C. 337, 440, 443, 444, 445, 447, 448	
D. 360, 425a, 425b, 475, 476	
Chemistry 200, 201, 210, 211	(3) + 5 ⁴
Electives	20-24
Electives planned to include courses in computer science, microbiology, physics, statistics and zoology	
Total	120

¹The 41-hour requirement may be reduced by taking College of Science or major requirements which are approved substitutes for University Core Curriculum courses.

²Plant Biology requirements satisfy the biological and physical sciences requirements for the College of Science and may be substituted for a maximum of 12 hours in University Core Curriculum courses.

³Plant Biology 200 is recommended for those who want to improve their background in Plant Biology prior to enrolling in Biology 200a, b and for those who wish to earn 3 hours credit toward University Core Curriculum Requirements.

⁴Organic Chemistry is recommended for those interested in plant physiology or graduate study.

Plant Biology Suggested Curricular Guide

FIRST YEAR		FALL	SPRING	SECOND YEAR		FALL	SPRING
BIOL 200b	-		3	BIOL 200a, 306.....	3		3
CHEM 200, 201.....	-		4	BIOL 307.....	3		-
ENGL 101, 102.....	3		3	CHEM 210, 211.....	4		-
Human Health.....	-		2	Fine Arts.....	-		3
MATH 108, 109.....	3		3	PLB 304.....	-		4
PLB 200.....	4		-	Social Science.....	-		3
Social Science.....	3		-	SPCM 101.....	3		-
General Elective.....	2		-	General Elective.....	-		3
<i>Total</i>	15		15	<i>Total</i>	13		16
THIRD YEAR		FALL	SPRING	FOURTH YEAR		FALL	SPRING
BIOL 305	3		-	Interdisciplinary.....	-		3
Humanities.....	3		3	Multicultural.....	3		-
PLB 300, 320.....	4		4	PLB Electives.....	6		6
PLB Elective.....	-		4	General Electives.....	7		6
Supportive Skill.....	3		3				
General Elective.....	3		-				
<i>Total</i>	16		14	<i>Total</i>	16		15

Minor

A minor in plant biology consists of a minimum of 16 semester hours, selected from any plant biology offerings except 390, 391, 490, 491, or 492.

Courses (PLB)

For all field courses in plant biology, students will be assessed a transportation fee. In addition, certain courses may require the purchase of additional materials and supplies, generally \$1 to \$5 in total cost.

115-3 General Biology. (University Core Curriculum, Same as Zoology 115) [IAI Course: L1 900L] Introduction to fundamental biological concepts for non-life science majors interested in learning about interrelationships of human, plant and animal communities. Integrated lecture and laboratory cover topics that include structure and function of living systems, reproduction and inheritance, evolution, biological diversity and environmental biology. Laboratory applies scientific methods to the study of living systems.

117-3 Plants and Society. (University Core Curriculum) [IAI Course: L1 901L] The relationship between plants and human society: historical and modern applications of plants to the human experience; centers of botanical origins and domestication of crop plants; theories on active plant and crop conservation; medicinal plants; making sound decisions on current and future problems of the environment; and plant genetics and biotechnology. Labs will include: hands-on experimentation; field work in natural plant communities, supermarkets and farmer's market; and visitations to plant research facilities. A field trip fee will be assessed.

200-4 General Plant Biology. [IAI Course: L1 901L] An introduction to Plant Biology. Emphasis is placed on structure and development and associated physiological phenomena. Consideration also is given to basic aspects of plant genetics, classification, evolution, ecology, and conservation. Three lectures and one 2-hour laboratory per week.

300-4 Plant Diversity. An evolutionary approach to the study of major plant groups – algae to flowering plants. Emphasis will be placed on cytology, anatomy, and development. Economic and ecological aspects of various groups as they relate to humans will also be considered. Laboratory will stress principles via hands-on study of selected representatives. Three lectures and one 2-hour laboratory per week. Prerequisite: Biology 200b or consent of instructor.

301I-3 Environmental Issues in the Contemporary World. (University Core Curriculum) Fundamental biological and ecological processes important in the individual, population and community life of organisms integrating with the philosophical and ethical relationships of the contemporary, domestically diverse human society are examined. Emphasis is placed on a pragmatic understanding of environmental issues. Prerequisite: strongly recommend completion of core science requirements.

303I-3 Evolution and Society. (University Core Curriculum) An introduction to the basics of biological evolution and the effect of biological evolution on society. Historical and modern interpretations of biological evolution on the human experience will be developed. This will include legal, political, religious, scientific, racist, sexist, philosophical and educational aspects. Topics will be covered via discussions, presentations, papers and debates. Prerequisite: strongly recommend completion of core science requirement.

304-4 Elements of Plant Systematics. The principles of plant classification including history, nomenclature, specimen collection and preservation, current systematic methodologies, and a survey of major plant families. Two lectures and four laboratory hours per week. Prerequisite: Biology 200b or equivalent.

320-4 Elements of Plant Physiology. The functions of plants and their relation to the various organs. Two lectures and four laboratory hours per week. Every semester. Prerequisite: Biology 200b; organic chemistry or a minor in chemistry.

335-2 Methods in Genetics. Selected organisms and techniques illustrating genetic principles. Two two-hour laboratories per week. Prerequisite: Biology 305 or equivalent.

337-2 Ecology Laboratory. Techniques in vegetation analysis and environmental measurements. One four-hour laboratory per week. Prerequisite: Biology 307 or equivalent.

356-4 Plant Pathology. (Same as Plant and Soil Science 356.) A study of the nature and control of plant diseases. Fungal and bacterial diseases are stressed. Field crop diseases are emphasized. Two lectures and two laboratories per week. Prerequisite: Biology 200b or equivalent; 320 recommended.

360-3 Introductory Biostatistics. Introduction to basic statistical concepts and methods as applied to biological data. Includes descriptive techniques such as measures of central tendency, variability, hypothesis testing, analysis of variance, and simple linear regression. Computer analysis and report writing will be required.

390-1 to 3 Readings in Plant Biology. Individually assigned readings in botanical literature. Every semester. Prerequisite: consent of departmental chair.

391-1 to 4 Special Problems in Plant Biology. Individual laboratory or field work under supervised direction: (a) Anatomy, (b) Bryology, (c) Ecology, (d) Morphology, (e) Mycology, (f) Paleobotany, (g) Pathology, (h) Photography, (i) Phycology, (j) Physiology, (k) Systematics. Prerequisite: consent of departmental chair.

400-4 Plant Anatomy. An introduction to cell division, development, and maturation of the structures of the vascular plants. Laboratory. Prerequisite: Biology 200b or consent of instructor.

404-4 The Algae. A phylogenetic approach to the study of algae with emphasis on comparative cytology, morphology, and ecology. Laboratories include a detailed survey of freshwater algae and a general treatment of representative marine forms. Two lectures and two two-hour laboratories per week. Prerequisite: 204 or consent of instructor.

405-4 The Fungi. A survey of the fungi — their structure, development, relationships, ecological roles, and economic importance. Two lectures and two laboratories. Prerequisite: 204 or equivalent.

406-3 Bryology. Structure, development, and relationships of the liverworts, hornworts, and mosses. Two lectures and one laboratory per week. Prerequisite: 204 or equivalent.

409-3 Field Mycology. The taxonomy, ecology, and distribution of fungi in southern Illinois and environs with emphasis on techniques of specimen collection, preservation, identification, and recognition. Prerequisite: Biology 200b; 204 recommended.

410-4 Taxonomy and Ecology of Bryophytes and Lichens. Floristic studies of the moss, liverwort, hornwort, and lichen communities of southern Illinois. Prerequisite: Biology 200b or equivalent, or consent of instructor.

414-3 Paleobotany. (Same as Geology 414) The study of external form, internal structure, and relationships of plant fossils. Two lectures and one laboratory per week. Prerequisite: 204; 400 recommended.

415-5 Morphology of Vascular Plants. The study of external form, internal structure, and relationships of vascular plants. Three lectures and two laboratories per week. Prerequisite: 204. Recommended: 400.

416-3 Limnology. (Same as Zoology 415.) Lakes and inland waters; the organisms living in them, and the factors affecting these organisms. Two lectures per week and one 4-hour laboratory alternate weeks. Offered fall term. Prerequisite: Zoology 220a.

420-3 Techniques in Plant Molecular Biology. Students will gain hands-on experience with current molecular techniques being applied to questions in the plant sciences. These include isozyme electrophoresis, DNA and RNA extraction, restriction endonuclease digestions, Northern blotting, Southern blotting, PCR (polymerase chain reaction), gene cloning, and DNA sequencing. Students will also gain some exposure to the use of computers in manipulating and analyzing molecular data. Prerequisite: Biology 200 (or equivalent) and junior standing, or consent of instructor.

421-4 Botanical Microtechnique. Introduction to practical methods of preservation and preparation of plant materials for laboratory and microscopic study. Paraffin and plastic embedding and sectioning techniques, and use of general and histochemical stains stressed. Includes chromosome squashing, whole-mount preparation, photomicrography, and other techniques. One lecture and three laboratories per week. Prerequisite: Biology 200b or equivalent.

425A-5 Advanced Plant Physiology. (Same as Plant and Soil Science 425a) Intermediary plant metabolism. Characterization of the photosynthetic and metabolic pathways of biosynthesis and degradation of organic constituents; role of environmental regulants of plant metabolism. Prerequisite: 320 and consent of instructor.

425B-5 Advanced Plant Physiology. Physics of plants; membrane phenomena; water relations; mineral nutrition. Prerequisite: 320 and consent of instructor.

430-3 Economic Botany. Classification, evolution, domestication, and botanical characteristics of plants useful to people. Every year. Prerequisite: Biology 200b or equivalent.

433-4 Introduction to Agricultural Biotechnology. (See Plant and Soil Science 433). Prerequisite: senior standing or consent of instructor.

439-2 Natural Areas and Rare and Endangered Species. Evaluation of the natural area preservation concept with emphasis on how to detect natural areas and methods to preserve them. Emphasis on the rare and endangered species program, its significance, and its methodology. Prerequisite: 304, Biology 307.

440-3 Grassland Ecology. A study of grassland structure and function in relation to various biotic and abiotic factors. Cost of field trips (\$5) and textbooks must be incurred by the student. Prerequisite: 304 and Biology 307 or equivalent.

443-4 Forest Ecology and Reclamation. Soil, climatic, and genetic factors affecting tree distribution and growth in disturbed and natural habitats. Saturday field trips. Prerequisite: 307 or equivalent.

444-4 Quantitative Plant Ecology. Includes concepts and methods pertaining to the analysis of ecological data. Approaches will include quantitative methods for classifying, ordinating, and describing structure of communities. Laboratory will include the computer application of these concepts and methods to field situations. Prerequisite: 360, Biology 307 or consent of instructor.

445-4 Wetland Plant Ecology. Provides students with experience in wetland plant ecology with an emphasis on wetland functioning, field sampling, and identification of common wetland plants. Travel fee for field trips is \$10. Prerequisite: 304, Biology 200b, 307, or consent of instructor.

447-2 to 6 Field Studies in Latin America. Two to six weeks of intensive field work to acquaint students with the flora and vegetation in various environments of Latin America and with ecological and taxonomic field techniques. Cost varies with type of study and location. Transportation cost: \$80. Prerequisite: advanced standing in one of the biological sciences and consent of instructor.

448-3 to 8 Field Studies in the Western United States. Three to six weeks of intensive field work designed to acquaint students with the flora, vegetation, and environments of the Rocky Mountains and adjacent areas. Both ecological and taxonomic field methods are emphasized. Transportation cost (\$100), travel expenses, and textbooks must be incurred by the student. Prerequisite: 304, Biology 307 or equivalents, and consent of instructor.

449-3 Plant Systematics and Evolution. The principles of modern plant systematics including classification methods, phenetics, cladistics, speciation and isolating mechanisms, plant breeding systems, basic population genetics, hybridization, polyploidy and flowering plant phylogenetic relationships using traditional and molecular markers. Prerequisite: Plant Biology 304 (or equivalent) or consent of instructor.

450-2 Plant Geography. World distribution of plants related to environmental, floristic, and historical factors. Prerequisite: interest in biology.

451-4 Flora of Southern Illinois. Exposure to the major upland and lowland communities of southern Illinois with an emphasis on the identification, distribution and ecology of the natural and introduced floristic components. Prerequisite: 304 or consent of instructor.

452A-2 Plant Population Ecology Lecture. The principles of plant population ecology including the spatial, age, size and genetic structures of plant populations. The origin of these different kinds of population structure, their influences upon each other, and their temporal dynamics. Prerequisite: Biology 307 or consent of instructor.

452B-2 Plant Population Ecology Laboratory. Laboratory to learn the research techniques associated with plant population ecology. Prerequisite: 452a or concurrent enrollment.

456-2 Advanced Plant Pathology. A study of the changes occurring in host and pathogen at the host-parasite interface before, during, and after penetration. Control measures will be discussed and emphasis will be on midwest field crops. Two lectures per week. Prerequisite: 356 or consent of instructor.

475-3 Advanced Cell Biology. (Same as Zoology 475.) Cell structure at molecular and cytological levels. Includes discussions of research methods, plasma membrane, cell exterior and recognition, the endomembrane system and related organelles, self-replicating organelles, the cytoskeleton, nuclear structure and function in cell replication, cell differentiation and response, and eukaryotic cell evolution. Prerequisite: BIOL 306 or equivalent.

476-2 Advanced Cell Biology Laboratory. (Same as Zoology 476.) Laboratory course to accompany Plant Biology 475. Light and electron microscopy, cell culturing, biochemical methods, and experimental protocols are used to study the structure of cell membranes, intracellular organelles, including the Golgi apparatus, ER, mitochondria, plastids, lysosomes, the cytoskeleton, and nucleus. Prerequisite: 475 or concurrent enrollment.

485-2 Botanical Literature. A survey of the major classical and modern writings in the botanical sciences. This includes a consideration of the primary subdivisions; systematics, structure, physiology, genetics, and ecology. In addition, periodicals will be treated. Prerequisite: consent of instructor.

490-3 Photographic Methods in Scientific and Biological Photography. Black and white and color. Specimen photography, macrophotography. Slides for presentation, materials and methods used in scientific publications. Prerequisite: consent of instructor.

491-3 Scientific Illustration. Materials and methods used in illustrating scientific publications including two-dimensional graphs, maps, lettering, and line drawings. Three dimensional techniques will also be covered. Prerequisite: consent of instructor.

492-2 to 6 Honors in Plant Biology. Individual research problems available to qualified juniors and seniors. Prerequisite: consent of department chair.

Plant Biology Faculty

Ashby, William C., Professor, *Emeritus*, Ph.D., University of Chicago, 1950.

Bozzola, John J., Professor, Ph.D., Southern Illinois University, 1975.

Crandall-Stotler, Barbara C., Professor, Ph.D., University of Cincinnati, 1968.

Gibson, David J., Associate Professor, Ph.D., University of Wales -Bangor, 1984.

Matten, Lawrence C., Professor *Emeritus*, Ph.D., Cornell University, 1965.

Middleton, Beth, Associate Professor, Ph.D., Iowa State University, 1989.

Mohlenbrock, Robert H., Distinguished Professor, *Emeritus*, Ph.D., Washington University, 1957.

Nickrent, Daniel L., Associate Professor, Ph.D., Miami University, Ohio, 1984.

Olah, Ladislao V., Professor, *Emeritus*, Ph.D., Stephen Tisza University, Hungary, 1934.

Pappelis, Aristotel J., Professor, Ph.D., Iowa State University, 1957.
Richardson, John A., Associate Professor, M.F.A., Ohio University, 1969.
Robertson, Philip A., Professor, Ph.D., Colorado State University, 1968.
Schmid, Walter E., Professor, Ph.D., University of Wisconsin, 1961.
Stotler, Raymond E., Professor, Ph.D., University of Cincinnati, 1968.

Sundberg, Walter J., Professor, Ph.D., University of California, 1971.
Tindall, Donald R., Professor, and *Chair*, Ph.D., University of Louisville, 1966.
Ugent, Donald, Professor, Ph.D., University of Wisconsin, 1966.
Wood, Andrew J., Assistant Professor, Ph.D., Purdue University, 1994.
Yopp, John H., Professor, *Emeritus*, Ph.D., University of Louisville, 1969.

Police Science

(SEE ADMINISTRATION OF JUSTICE)

Political Science (Department, Major, Courses)

Political Science is the study of issues that most immediately and profoundly affect our lives. In the global, national and local political arenas, decisions are made every day that influence the way we live. The political science major will prepare you to address these issues intelligently. You will gain knowledge and skills to make a contribution in today’s dynamic economic and political world. Courses in political science teach you skills in writing, analysis and communication and prepare you for exciting work in all sectors of our society: business, education, government and industry.

Students planning to major in political science should consult with the political science academic advisor as early as possible to plan their program of study. As a political science major you will be able to choose from a curriculum that combines structure with flexibility. The department offers two specializations, one in International Affairs and the other in Public Service, as well as several programs of study including Law School Preparation, Political Elections and Campaigns, Political Reporting and Post-Secondary Teaching. Within each, students choose from the wide range of courses that prepare them best for their future plans and careers. Students are encouraged to gain practical experience by enrolling in internships and study abroad programs. Upon obtaining senior status, students with a 3.50 or higher gpa in political science and a 3.25 overall, may enter the political science honors program. Students must consult with the political science academic advisor before enrolling in departmental courses each semester.

Students majoring in political science must complete core and elective requirements listed below for a minimum of 33 hours of which at least 15 must be earned at Southern Illinois University. A minimum of three of these courses must be taken at the 400 level. A maximum of nine hours of 390 and 395 and six hours of Individualized Learning Program (ILP) may be counted toward the minimum of 33 hours. Students may not register for ILP courses in political science while enrolled in classes on campus. Majors must complete 200 with a grade of C or higher. They must also complete either 300 or 330 with a grade of C or higher to meet the College of Liberal Arts Writing-Across-the Curriculum (WAC) requirements. One paper from a 400-level in which the student earned a C or higher must be submitted to the academic advisor by April 15 or November 15 of the student’s graduating semester. Students must complete the departmental exit survey as a final graduation requirement for the major in political science.

Bachelor of Arts, College of Liberal Arts

<i>University Core Curriculum Requirements</i>	41
<i>College of Liberal Arts Academic Requirements (See Chapter 4.)</i>	11
<i>Requirements for Major in Political Science</i>	33

Core Courses: POLS 114, 200, 300 or 330	9
Political Science Electives (choose at least one from each group):	24
POLS 207, 303, 403, 404, 405, 408	
POLS 213, 214, 317, 318, 319, 321, 322, 324, 325, 413, 414, 415, 416, 418, 419	
POLS 332, 334, 433a, 433b, 435, 436, 437	
POLS 340, 441, 443, 444, 445, 446, 447	
POLS 170, 250, 278, 353, 354, 371, 378, 480, 461	
Minor	15-18
Electives	<u>17-20</u>
Total	120

POLITICAL SCIENCE MAJOR – INTERNATIONAL AFFAIRS SPECIALIZATION

Political science majors preparing for international affairs must meet the basic requirements for the political science major including core courses, a minimum of 33 credit hours in political science, three 400-level courses, International Affairs elective requirements and completion of an existing minor or interdisciplinary program of study. In fulfilling these requirements, majors preparing for international affairs will have the opportunity to study subjects like international relations, comparative politics, international political economy and the politics of specific countries and regions. Minors and interdisciplinary study are approved by the International Affairs advisor.

University Core Curriculum Requirements	41
College of Liberal Arts Requirement (See Chapter 4)	11
Requirements for Major in Political Science	48-51
Core Requirements POLS 114, 200, 416	9
International Affairs Course Sequence POLS 170, 250, 371, 480	12
Political Science Electives (choose at least 1 from each group):	12
POLS 303, 404, 405, 437	
POLS 213, 319, 321, 322, 324, 420	
POLS 340, 413, 436, 441, 443, 444	
POLS 330, 332, 334, 433, 435	
Minor (or interdisciplinary study)	15-18
Electives	<u>17-20</u>
Total	120

POLITICAL SCIENCE MAJOR – PUBLIC SERVICE SPECIALIZATION

Political science majors preparing for public service careers must meet the basic requirements for the political science major including core courses, a minimum of 33 credit hours in political science, three 400-level courses, public service elective requirements and completion of an existing minor or interdisciplinary program of study. In fulfilling these requirements, majors preparing for public service have the opportunity to study subjects like administrative law, intergovernmental relations, organizational politics, public policy analysis ad public financial administration.

University Core Curriculum Requirements	41
College of Liberal Arts Requirements (See Chapter 4)	11
Requirements for Major in Political Science	48-51
Core Requirements POLS 114, 200	6
Public Service Course Sequence POLS 340, 413, 441, 443, 444	15
Political Science Electives (choose at least 1 from each group):	12
POLS 303, 404, 405, 437	
POLS 213, 319, 321, 322, 324, 420	
POLS 330, 332, 334, 433, 435, 436	

POLs 170, 250, 278, 371, 378, 477, 480	
Minor (or interdisciplinary study)	15-18
Electives	<u>17-20</u>
Total	120

Minor

A minor in political science consists of fifteen hours to be approved by the department adviser. At least nine of the required fifteen credit hours must be earned at Southern Illinois University Carbondale.

Individualized Learning Program (ILP)

Students registered on-campus at the University will not receive credit toward their major requirements for Political Science courses completed in ILP. Off-campus students not registered for courses on campus may enroll in a maximum of two Political Science courses offered in ILP. Only one of these courses can be utilized to meet the department's 400-level requirement.

Research and Teaching

The faculty in the department come from major academic institutions from around the country. Faculty, teaching and research have received national and university wide recognition. Virtually all political science courses are taught by full-time faculty. The department emphasizes small sections and a close student/faculty relationship.

Advisement

Students in political science have access to a special academic adviser in the department for personalized advisement and also have access to the excellent advisement services in the College of Liberal Arts. Each student consults with the academic adviser and may also see a political science professor for more specialized counseling. Help is offered in course selection and registration, in long-range planning, and career information.

Awards

The department administers several endowed annual awards. Students may also qualify for membership in the national political science honor society. See the awards brochure and your adviser for additional information on eligibility requirements.

Honors Program

Students interested in the Political Science honors program should discuss this option with their departmental advisor at the beginning of the junior year. Opportunities available for this program are described in detail in the Political Science Handbook available in the department.

Courses (POLs)

The numbers preceding the following course titles have been designed to group courses by subject matter as well as level. A summary explaining the numbering system follows:

COURSE	LAST TWO DIGITS OF COURSE NUMBER
Scope, Methods, and Political Theory	00-09
American Politics	10-29
Public Law	30-39
Public Administration	40-49
Comparative Politics	50-69
International Relations	70-89
Miscellaneous	90-99

114-3 Introduction to American Government and Politics. (University Core Curriculum) [IAI Course: S5 900] Examines the structure of American national government, the cultural context, and the operation of our political system. Focuses on Constitutional foundations of American government, how differences in race, gender and culture affect the political system, and the American attempt to deal with equality, liberty and order, conflict and cooperation.

130-3 Law in American Society. This is an introductory course recommended for students who want to consider possible careers in law. The following topics will be covered: the relation between law, justice, morality and religion; types and sources of law and legal rules; origin and development of common law; the role of lawyers, judges and juries; legal education in the United States. These topics will be explored through lectures, discussion groups and occasional guest speakers. Does not apply to hours in political science major.

170-3 Global Politics. [IAI Course: S5 904N] Examines processes of integration and disintegration that challenge the centrality of the state in the global political system. Focus on how changes in economy, technology, ecology, demography, climate, norms and culture bear on prospects for world order.

200-3 Introduction to the Discipline: Scope. [IAI Course: S5 903] Examination of the philosophy, theories, approaches and relevant generalizations of the study of politics and of the scope and subfields of political science. Not open to seniors without instructor's consent. Satisfies the CoLA Writing-Across-the-Curriculum requirement with a grade of C or better.

207-3 Contemporary Political Ideologies. [IAI Course: S5 905] A survey of recent political ideologies: Nationalism, Socialism, Communism, Liberal Democracy, Conservatism, Christian Socialism, Fascism, Contemporary Liberation Movements.

213-3 State and Local Government. [IAI Course: S5 902] Structure, functions, and decision-making processes of subnational governments in the United States. Prerequisite: 114.

214-3 Illinois Government. The politics, structure, and function of state and local governments in Illinois with stress upon the historical development of the political culture, current issues and events in the light of the historical background, and the interrelationship of politics, structure, and policy. Prerequisite: 213 or sophomore standing.

250-3 Politics of Foreign Nations. An introduction to the range of developed and developing nations with special attention to the importance of geographical, racial, ideological, ethnic and socioeconomic explanations of political institutions, processes and behavior in these states.

278-3 Domestic Sources of American Foreign Policy. (University Core Curriculum) A general survey of the American foreign policy process. Special attention is given to the diversity of ethnic, racial and religious groups in the US and how these groups attempt to shape foreign policies in ways that meet their specific domestic and international interests.

300-3 Introduction to the Discipline: Methods. An examination of the research methods and data analysis techniques used by political scientists in their analysis of political questions and problems. Prerequisite: 114, 200 recommended. Satisfies the CoLA Writing-Across-the-Curriculum requirement with a grade of C or better.

303-3 Introduction to Political Theory. An introduction to the fundamental questions that are at the core of political theory. Attention is given in particular to the problem of justice and, when appropriate, to its meaning within the American context.

317-3 Public Opinion and Electoral Behavior. The nature and function of public opinion as it is related to electoral behavior. Additional sociological and psychological bases of voting behavior will be studied. Prerequisite: None; 200 recommended.

318-3 Political Campaigns and Elections. (Same as Speech Communication 358.) Analysis of modern political campaigns and the role they play in a democracy. Emphasis will be on recent developments in the planning and execution of campaigns by mass media and communication specialists and the role of the political parties and the public opinion polls in this process. Prerequisite: 114.

319-3 Political Parties. Nature, structure, and functions of political parties, with particular attention to the roles and activities of political parties in the United States. Attention also given to voting behavior and elections. Prerequisite: 114.

321-3 The Legislative Process. A comparative analysis of legislatures and legislative behavior. Emphasis is on the United States Congress. Prerequisite: 114.

322-3 American Chief Executive. The origin and background of the presidency and the governorship, qualifications, nomination and election, succession and removal, the organization of the executive branch, and the powers and functions of the president and governor. Prerequisite: 114.

324-3 Politics and Public Policy. The public policy-making process in the United States evaluated and a wide range of public policy programs analyzed. Prerequisite: 114.

325-3 Politics and Environmental Policy. An analysis of political aspects of the environment. Topics include conceptions of the environment in Western political thought; identification of environmental problems at the local, state, national and global levels; analysis of the various organized interests involved in formulating environmental policy; analysis of the response of local, state and national governments, including the response of the international community, to environmental problems and the activities of organized interests; and investigation of the various local, state, national and international policies that relate to the environment. Prerequisite: 114 or equivalent.

330-3 Introduction to the Legal Process. Designed to provide a basic background in the United States legal process for students who want only an overview of the process or who plan to take an extensive number of additional courses in the judicial area. The course will survey the history of common law, legal reasoning, basic terminology, conventional legal research, the legal profession, and provide an introduction to civil and criminal processes. Satisfies the CoLA Writing-Across-the-Curriculum requirement with a grade of C or better. Prerequisite: 114.

332-3 Introduction to Civil Liberties and Civil Rights. (Same as Black American Studies 345.) Course focuses on civil rights (e.g. voting, housing, employment, education) in terms of congressional statutes, the judicial rulings which led up to them, the administrative development and judicial interpretation of the statutes. Prerequisite: 114 recommended. Not recommended for students planning to take 433b.

334-3 Criminal Justice in Society and Court Management. Designed to provide the student with an in-depth look at the organization and management of federal, state, and local criminal courts. Focuses on the criminal process and the rights of defendants as they are processed by the system. Prerequisite: 114 recommended.

340-3 Introduction to Public Administration. An introduction to the study of public bureaucracy. Theoretical, political, and practical issues of organization, staffing, financing, and other matters are surveyed. United States administration and organizational behavior are stressed. Prerequisite: 114.

372I-3 International Political Economy. (University Core Curriculum) Examines the interaction of politics and economics and of states and markets at the international level. Special attention to inequalities of wealth and power and to the politics of international trade, finance, investment, production, energy, transportation, information, technology and development.

373-3 International and Transnational Organizations. The growth and role of international organizations, with special attention to the political effects of military, economic and ecological interdependence. The United Nations, regional organizations, and non-governmental organizations. The effects of these organizations on international peace and justice. Prerequisite: none; 270 recommended.

375-3 War and Force in World Politics. An examination of the use of military power and force in modern world politics. Theoretical and empirical analysis of the causes and conduct of war, and investigation of the ways states, ethnic groups, and other actors develop, manage, and employ military power to further their interests. Topics include nuclear deterrence, arms control, weapons proliferation and terrorism.

390-1 to 3 Readings in Political Science. Specialized and advanced readings in areas not covered in other political science courses. Student must choose a faculty member to direct reading. Restricted Class Card, necessary for registration, must be signed by professor supervising readings and the student's political science advisor who files proper form with the director of undergraduate studies in the department. Fifteen hundred pages of reading per credit hour, or equivalent, is recommended. Students generally will be expected to have a 3.0 Political Science grade point average, a minimum of 21 hours already earned in the major or completed the introductory course and six additional hours in the subfield of the proposal readings. Prerequisite: authorization card signed by instructor and director of undergraduate studies prior to registration.

395-1 to 12 Internship in Public Affairs. Supervised field work in the office of a governmental agency, political party, interest group, legal agency, or other public affairs-oriented organization. A faculty-supervised paper is required in which the student relates the academic and internship experiences. Students must choose a faculty member to direct internship and obtain consent prior to registration. Name of faculty member must be filed with undergraduate adviser of the department at registration. Political Science 395 is open only to students who are confirmed Political Science majors or minors. Students must have taken at least two courses in the department with a minimum grade point average of 2.5 in these courses. No more than six hours may be counted toward a departmental major. A written description identifying the specific organization, the projected tasks, and responsibilities of the intern should be prepared prior to meeting with the faculty sponsor. Prerequisite: authorization card signed by instructor and director of undergraduate studies prior to registration.

403-3 Philosophy of Politics. (See Philosophy 441.)

404-3 History of Political Theory. Shall survey different theorists and perspectives which have contributed significantly to the development of the ongoing tradition of political theory up to modern times. Prerequisite: 303 or consent of instructor.

405-3 Democratic Theory. An examination of various species and aspects of democratic thought, including the liberal tradition and its impact upon the United States. Prerequisite: 114 or consent of instructor.

408-3 Contemporary Political Theory. Shall explore the theorists and perspectives which have contributed to contemporary views of the political world. Prerequisite: consent of instructor.

413-3 Contemporary Intergovernmental Relations. An examination of relationships among national, state, and local governments in the American federal system, with emphasis on recent literature and contemporary issues. Special attention is given to fiscal relations, and specific intergovernmental programs in areas such as housing and environmental quality are examined. Prerequisite: 114.

414-3 Political Systems of the American States. The state level of government viewed with emphasis upon recent developments and current research. Prerequisite: 114.

415-3 Urban Politics. An examination of the environment, institutions, processes, and functions of government in an urban society with particular emphasis on current problems of social control and the provision of services in the cities of the U.S. Prerequisite: 114.

416-3 Senior Seminar in Politics. Seminar for advanced undergraduate students to examine in depth a wide variety of topics; to be taught by different instructors. Available for use as the honors seminar. Graduate students not admitted. Prerequisite: 200 recommended.

418-3 Political Communications. (See Speech Communication 451.)

419-4 Political Sociology. (See Sociology 475.)

420-3 Interest Group Politics. An examination of the structure, mobilization and impact of interest groups on American political life. The course objectives are to study various normative critiques of American pluralism and examine the political influence of contemporary interest groups, such as labor, racial and women's organizations. Prerequisite: 114.

433-6 (3,3) Constitutional Law. (a) This, the initial course in a two-course sequence, is concerned with the basic structure and power relationships in the American constitutional system. Topics include judicial review, judicial restraint, separation of powers, the federal system, national powers, state powers, the contract clause, and substantive due process. Prerequisite: 114. Political Science 330 recommended. (b) This, the second course in the constitutional law sequence concentrates on those provisions of the U.S. Constitution which protect individual rights and liberties against government encroachment. Prerequisite: 114.

435-3 Judicial Process and Behavior. An examination of the process by which judges in both trial and appellate courts at federal and state levels are selected and of the ways in which they make decisions. Attention to the structure of the courts. Study of the communication and impact of judicial decisions. The course will provide some insight into the methods used to study judicial behavior.

436-3 Administrative Law. The procedural law of public agencies, particularly the regulatory commissions but also executive branch agencies exercising regulatory functions. The exercise of discretion and its control through internal mechanisms and judicial review. Prerequisite: 340 or 114 recommended.

437-3 Jurisprudence (Theories of Law). Major schools in legal thinking. Positive law and natural law. Idea of justice and concept of natural rights.

441-3 Administration of Bureaucratic Organizations. A study of the elements of bureaucratic organization and of problems and procedures in administration of complex public agencies. Emphasis is placed on the personnel aspects of public bureaucracy, including the history and structure of civil service systems, conditions of public service employment, and issues in leadership and supervision. Prerequisite: 340 or consent of instructor.

443-3 Public Financial Administration. An examination of governmental revenues and expenditures, with emphasis on state and local governments. Special attention is given to patterns of taxation and expenditure, intergovernmental fiscal relations, municipal debt, and administrative decision making. Prerequisite: 114.

444-3 Policy Analysis. An examination of basic concepts in the policy sciences, approaches to policy analysis, applications to selected areas of policy, and instruments of policy development.

445-4 Administration of Environmental Quality and Natural Resources. (Same as Geography 426.) An examination of institutional arrangement and administrative practices in the protection and use of land, water, air, and mineral resources. The course include analysis of responsibility and decision-making at all levels of government (federal, state, and local) as well as corporate, interest group, and individual responses to public programs. Particular attention will be given to administration of federal environmental quality legislation including the National Environmental Policy Act, the Clean Air Act, the Water Pollution Control Act, and the Surface Mining Reclamation Act.

446-3 Museum Administration. A comprehensive introduction to museum administration and management, including fiscal and budget oversight; an understanding of museum ethics; acquisition, conservation, and exhibition planning; personnel matters; and museum research. Museum practicum and research stressed.

458-3 Contemporary Europe. Comparative study of contemporary political systems and policy issues. Emphasis on selected countries and common problems facing governments. Topics covered include the European community, security institutions, economic, social and other public policies, and study of various governing processes.

459-3 Government and Politics of Russia. Transitions from communism in the former Soviet Union. Prerequisite: none. 250 recommended.

461-3 Governments and Politics of Southeast Asia. Politics and governments of Burma, Thailand, Malaysia, Vietnam, Cambodia, Laos, Singapore, Indonesia, and the Philippines. Prerequisite: none. 250 recommended.

466-3 Government and Politics of Latin America. An in-depth analysis of specific problem areas in Latin American political processes as well as comparative study of selected Latin American nation-states. Prerequisite: none. 366 recommended.

468-3 Comparative Civil-Military Politics. A comparative study of the growth of the relationship of the armed forces with the civilian sector of the body politic, the selection, training, and professionalism of the officer corps, the control of the armed forces by the executive and legislature, the growth of strategic doctrine, insurgency and counter-insurgency warfare, and the analysis of the role of the armed forces as a governing group in a large number of non-western states. Prerequisite: none. 250 recommended.

475-6 (3,3) International Law. (a) Rules and practices governing the nations in their relations in peace and war. Prerequisite: none. 270 recommended. (b) Investigation of special problems in international law. Prerequisite: 270 recommended.

477-3 The Making of American Foreign Policy. An advanced course dealing with the formulation and administration of American foreign policy. Prerequisite: 278 for undergraduates.

480-3 International Politics. Definition and analysis of the concepts of spheres of hegemony, alliances, regionalism, integration, interdependence, and an evaluation of their application to contemporary international politics. The course will stress the need for the continuing evaluation of the vague role of national power and influence within the framework of a changing world environment.

494-1 to 3, 1 to 3 Honors Research. (a) Directed research for senior honors students. political science honors students may register for these credits if they have met all the prerequisites described in the political science Handbook. A three person faculty committee will administer an oral examination upon completion of senior thesis. Not for graduate credit. (b) Available to students who have completed all prerequisites of the University Honors Program and receive approval of their project from a Political Science instructor. Not for graduate credit.

Political Science Faculty

Baker, John H., Associate Professor, *Emeritus*, Ph.D., Princeton University, 1961.

Bhattacharyya, Jnanabrota, Associate Professor, Ph.D., University of Delhi, 1969.

Blanton, Shannon, Assistant Professor, Ph.D., University of South Carolina, 1996.

Brown, Barbara L., Lecturer, Ph.D., Southern Illinois University, 1985.

Chou, Ikua, Professor, *Emeritus*, Ph.D., Fletcher School of Law and Diplomacy, 1949.

Clinton, Robert, Associate Professor, Ph.D., University of Texas at Austin, 1985.

Collins, Susan, Assistant Professor, Ph.D., Boston College, 1995.

Dale, Richard, Associate Professor, *Emeritus*, Ph.D., Princeton University, 1962.

Desai, Uday, Professor and *Chair*, Ph.D., University of Pittsburgh, 1973.

Ervin, Osbin L., Associate Professor, Ph.D., University of Tennessee, 1974.

Foster, John L., Associate Professor, Ph.D., University of Minnesota, 1971.

Garner, William R., Associate Professor, *Emeritus*, Ph.D., Tulane University, 1963.

Goren, Paul, Associate Professor, Ph.D., University of Pittsburgh, 1997.

Hamman, John A., Associate Professor, and *Director*, Ph.D., University of Illinois, 1988.

Heimann, Larry, Associate Professor, Ph.D., Washington University-St. Louis, 1991.

Jackson, John S., III, Professor and *Vice Chancellor for Academic Affairs and Provost*, Ph.D., Vanderbilt University, 1971.

Johnson, Tim, Associate Professor, Ph.D., Washington University-St. Louis, 1998.

Kamarasy, Egon K., Assistant Professor, *Emeritus*, Doctor Politics, Budapest University, Hungary, 1942.

Kenney, David, Professor, *Emeritus*, Ph.D., University of Illinois, 1952.

Kimball, David, Associate Professor, Ph.D., The Ohio State University, 1997.

Klingberg, Frank L., Professor, *Emeritus*, Ph.D., University of Chicago, 1938.

Landecker, Manfred, Associate Professor, *Emeritus*, Ph.D., Johns Hopkins University, 1965.

Mason, Ronald M., Associate Professor, Ph.D., University of Iowa, 1976.

Melone, Albert, Professor, Ph.D., University of Iowa, 1972.

Miller, Roy E., Associate Professor, Ph.D., University of Illinois, 1971.

Morton, Ward M., Professor, *Emeritus*, Ph.D., University of Texas, 1941.

Nelson, Randall H., Professor, *Emeritus*, Ph.D., University of Michigan, 1956.

Schubert, Glendon, Research Professor, *Emeritus*, Ph.D., Syracuse University, 1948.

Shulman, Steven, Assistant Professor, Ph.D., University of Michigan, 1996.

Snavelly, Keith, Associate Professor, and *Director*, Ph.D., University of California at Davis, 1984.

Somit, Albert, Distinguished Service Professor, *Emeritus*, Ph.D., University of Chicago, 1947.

Tarry, Scott, Assistant Professor, Ph.D., University of Michigan, 1993.

Turley, William S., Professor, Ph.D., University of Washington, 1972.

Pre-Physician Assistant (Preprofessional program)

Pre-Physician Assistant Suggested Curricular Guide ⁸

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
CHEM 200,201 ²	-	4	AHC 105.....	-	2
ENGL 101,102.....	3	3	CHEM 210,211.....	4	-
MATH 108.....	3	-	CHEM 340,341.....	-	5
PHSL 201 ⁴ , PSYC 102.....	3	3	MICR 201 or 301, PHSL 301.....	4	4
ZOOL 118 ³	-	4	SPCM 101, SOC 108.....	3	3
Select ^{1,5,6}	6	3	Select ¹	6	3
Total.....	15	17	Total.....	17	17

THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
CHEM 350.....	-	3-4	Major Courses.....	14	13
Select ¹	3	3			
Major Courses ⁷	10	7-8			
Total	13	14	Total	14	13

¹ See "University Core Curriculum"

² Chemistry 140a,b is acceptable instead of Chemistry 200, 201, 210, 211 for the Physician Assistant program at Southern Illinois University Carbondale

³ Fulfills a University Core science requirement

⁴ Fulfills a University Core health requirement

⁵ Saint Louis University requires a course in history

⁶ Midwestern University requires 22 hours of general education electives

⁷ Students who decide to remain at SIUC for a Bachelor degree in the College of Science must consult an academic advisor and plan a curriculum leading to a degree in an approved program. The pre-physician assistant program does not guarantee admission into a professional school

⁸ Students wishing to apply to the Physician Assistant Program at SIUC, should contact the academic advisor for the Physician Assistant Program in the College of Applied Sciences and Arts.

Professional Education Experiences (Teacher Education Program)

Student Teaching

Student teaching constitutes a total professional commitment on the part of the student and is a full semester of experience in the field carrying 12 hours of credit. Special permission must be obtained from the director of Professional Education Experiences before any additional course work can be taken with student teaching.

The student teacher must follow the same daily schedule as the cooperating teacher with whom the student is placed. This means that the student teacher remains in the school for the entire day, as well as participating in whatever extracurricular activities might be the responsibility of the cooperating teacher.

Students majoring in elementary education will be assigned to work with a cooperating teacher in one of the elementary grades, one through six, in an affiliated school. Students majoring in early childhood will be assigned to work with a cooperating teacher in a preschool/kindergarten and/or primary grade, one through three, in an affiliated school.

The student who majors in a secondary school subject field which has an approved program in the teacher education program will be assigned to work with a cooperating teacher in a secondary school, grades seven through twelve, whose teaching assignment is consistent with the student's teaching major.

Special education majors will be assigned to work with a cooperating teacher in the appropriate special area: mental retardation, behavioral disorders, or learning disabilities. Special education majors will be assigned at both the elementary and secondary levels in order to meet certification requirements. Similar grade level assignments will be made for art, music, and physical education majors. Students majoring in communication disorders and sciences will be assigned to a cooperating teacher who is a speech clinician in an affiliated school.

Students wishing to enroll in the professional semester during the fall or spring semester of the academic year must file an application with the College of Education Student Services, Wham Building, Room 135, at least one semester in advance of the semester during which they wish an assignment. Student teaching credit during the summer session is restricted to those individuals who hold a provisional teaching certificate or who are enrolled in the Early Childhood-Preschool/Primary Specialization. Participation in this program also is dependent upon the availability of suitable placements in the summer school programs of participating public schools.

Applications for both regular academic year and special summer participation are available in the College of Education Student Services, Wham Building, room 135.

The student must register for the professional semester following normal registration procedures. Registration will include the following course: Education 401,

12 hours. Students will register for the section of this course designated for their majors. Registration during the summer session is by restricted class card for Education 402, 5-8 hours.

PLACEMENT OF STUDENT TEACHERS

Student teaching under the supervision of Southern Illinois University Carbondale faculty is conducted in professional education centers with affiliated schools located in southern Illinois as well as specific locations in Belleville and suburban Chicago. A current listing of specific schools to which student teachers may be assigned is available in the College of Education Student Services.

In so far as numerical limits will permit, students will be assigned to the location of their choice. However, if the limits have been met, students are advised that they may be assigned to any of the centers which can suitably accommodate them.

Students are advised to make no binding housing commitments during the professional semester until they have received verification of their student teaching assignments. Such housing commitments will not be considered when students are assigned.

PROFESSIONAL SEMESTER (STUDENT TEACHING) PREREQUISITES

1. Students must have achieved formal acceptance into the teacher education program and must present their records of acceptance when applying for the professional semester.

2. The student is responsible for having all transcripts of credit earned at colleges or universities other than Southern Illinois University Carbondale on file with the coordinator in the College of Education Student Services. These must be on file by the tenth day of the semester for which the student is applying.

3. Prior to the professional semester, the student must have completed a minimum of 20 semester hours in the subject area to be taught. The course work involved must meet the approval of the department chair of that major department. (Course work and performance required may be obtained from the department concerned.) An up-to-date list of approved majors in the teacher education program may be found in the booklet, *The Teacher Education Program*, or requested from the College of Education Student Services.

4. The student must have completed a minimum of 100 clock hours of pre-student teaching field experiences.

5. The student must have completed 75 semester hours of credit with a minimum cumulative average of 2.5 in the major before beginning work in student teaching.

6. Each of those courses which are a part of the professional education sequence prior to the professional semester must have been completed with a grade of C or better. (See Teacher Education Program.)

7. The student must have completed the special methods class required for the major prior to the professional semester.

8. Every student teacher must have a health clearance from the University Student Health Program. The health clearance consists of a tuberculin test. If it is not convenient to come to the health service in Carbondale, students may have a tuberculin test by their own medical doctors. A record of the health clearance must be on file in the College of Education Student Services by the tenth day of the semester immediately preceding the student's professional semester.

9. The student must have established at least one semester of residence at Southern Illinois University Carbondale earning a minimum of 12 semester hours of credit, prior to any professional semester assignment.

Field Experiences Other Than the Professional Semester

Other field experiences for students in the teacher education program are provided in Education 310 and Education 316. Applications for these courses are available in the College of Education Student Services.

Student Services Faculty

Aud, Susan, Clinical Instructor, Ph.D., Southern Illinois University 1994.

Buser, Margaret, Assistant Professor, *Emerita*, M.S. Ed., Indiana University, 1966.

Cox, Jackie, Clinical Instructor, M.S., Southern Illinois University, 1992.

Gilley, George, Clinical Instructor, Ph.D., The Ohio State University, 1978.

Jin, Lijun, Clinical Instructor, Ph.D., Indiana University of Pennsylvania, 1996.

Messersmith, Gary, Clinical Instructor, M.S., Southern Illinois University, 1973.

Moore, Eryn E., Assistant Professor, *Emerita*, Ph.D., Southern Illinois University, 1976.

Napier, Arvin, Clinical Instructor, M.S., University of Missouri, 1967.

Norris, William R., Associate Professor, *Emeritus*, Ed.D., Indiana University, 1973.

Turner, Doris Sewell, Lecturer, *Emerita*, M.S. Ed., Southern Illinois University, 1949.

Wetzel, Ann, Clinical Instructor, M.S., Eastern Illinois University, 1984.

Werner, Isabel, Lecturer, *Emerita*, Ph.D., Southern Illinois University, 1993.

Williams, Sarah L., Clinical Instructor, M.S., Southern Illinois University at Edwardsville, 1972.

Psychology (Department, Major, Minor, Courses)

The undergraduate program in psychology provides a broad general education in the tradition of the liberal arts. This tradition focuses on the development of wide-ranging interests in the arts, humanities, and social sciences, and on the development of critical and analytical thinking. A student who has earned a degree in one of the liberal arts, such as psychology, should be prepared to pursue lifelong learning and personal enrichment, as well as to enter the work force or to pursue more advanced studies.

Graduates of the psychology program who have entered the work force immediately have found employment in a wide variety of settings, ranging from sales and personnel work in the business sector, to positions with the human service agencies of local, state, and federal governments. Graduates who have gone on to advanced study have successfully prepared themselves for professional careers in such fields as law, medicine, and psychology.

Students planning to apply to law or medical schools after completing a major in psychology should plan their programs of study in close consultation with the pre-medical or pre-law advisers on campus. Students planning to apply for admission to graduate study in psychology should plan their undergraduate program of study very carefully in consultation with advisers in the Department of Psychology. At least two years, and as many as six years, of graduate study are required for qualification as a professional psychologist, and admission to the graduate programs is highly selective and competitive.

Students who enter the University with a major in psychology should meet with the director of undergraduate studies in the Department of Psychology as soon as possible after arrival at the University in order to discuss their interests and plans of study. Students already at the University who wish to change to a major in psychology should contact the office of the director of undergraduate studies in the Department of Psychology in order to initiate the request for a change of major.

Bachelor of Arts Degree, College of Liberal Arts

<i>University Core Curriculum Requirements</i>	41
<i>College of Liberal Arts Academic Requirements</i> (See Chapter 4)	14
<i>Requirements for Major in Psychology</i>	37-40
Psychology 102 (must be passed with a grade of C or better)	(3)
Mathematics 108, 111, 113 or 139 (choose one)	(3) + 0-2
Psychology 211, 311 (must be passed with a grade of C or better, completion of 211 before senior year recommended)	8
Psychology Electives	29-30
Ten courses from the list below. At least six must be from Groups A, B, and C, with at least one course from each of these three	

groups. A minimum of three courses must be chosen at the 400-level from among the total offerings in the A, B, and C Groups.
Group A: 301, 303, 304, 305, 307, 333, 431, 432, 440, 451, 461, 463, 464
Group B: 302, 308, 309, 310, 371, 407, 409, 415, 416, 419, 445
Group C: 320, 322, 323, 340, 411, 413, 420, 421, 441, 465
Group D: 222, 389, 391, 392, 393, 394, 489, 499, Educational Psychology 402, Mathematics 282
Of all credits that a student completes for Psychology 391, 392, 393, and 394, a maximum of three hours from any or all of these courses may count towards the major.

Electives	25-34
Total	120

¹Courses in parenthesis will also count towards the 41 hours of University Core Curriculum requirements.

Psychology Suggested Curricular Guide

FIRST YEAR			SECOND YEAR		
	FALL	SPRING		FALL	SPRING
Core Curriculum.....	15	12	Core Curriculum.....	6	5
PSYC 102.....	-	3 ¹	MATH 108 or 139.....	-	3
			PSYC Electives	3	3
			Elective	6	4
Total.....	15	15	Total	15	15
THIRD YEAR			FOURTH YEAR		
	FALL	SPRING		FALL	SPRING
PSYC 211,311.....	4	4	PSYC 400-Level.....	6	3
PSYC Electives	6	3	PSYC Electives	3	3
Electives	5	8	Electives	6	9
Total.....	15	15	Total	15	15

¹Satisfies Core Curriculum Social Science requirement.

Minor

A minor in psychology requires the successful completion of at least 15 semester hours (5 courses) in courses offered by the Department of Psychology and acceptable to the department for fulfillment of major requirements. Psychology 393 may not be included. A maximum of three hours from any or all Psychology 391, 392 and 394 may count towards the minor. Courses in other departments, such as the Department of Educational Psychology, do not fulfill minor requirements. An average gpa of at least 2.0 in psychology courses must be successfully completed. Students completing a minor in psychology for purposes of qualifying to teach psychology in the State of Illinois must complete a minimum of 20 semester hours in psychology.

A student wishing to complete a minor in psychology must apply to the Department of Psychology for approval of the program of study for the minor. Without this approval the minor will not be officially listed on the student's transcript at the time of graduation. Application forms are available in the office of the director of undergraduate studies in psychology.

Courses taken at other institutions may count towards the minor only if those courses are acceptable for transfer credit in psychology. If credit is not accepted for transfer, a revised application for the minor must be approved.

Transfer Credit

Credit for a course in psychology successfully completed at another accredited institution will be transferred to meet major or minor requirements in psychology at SIUC, subject to the following conditions:

- 1. The course number must bear a departmental prefix clearly indicating the course is a psychology course. Examples are PSYCH and PSYC.
- 2. The course must have covered substantially the same content material as a course currently offered at SIUC to meet major requirements.

3. Credit for a course completed at a community or junior college is not transferable if the corresponding course at SIUC is offered at the 400-level.

4. A grade of C or higher must have been earned in the course.

5. All transfers of credit to meet major or minor requirements in psychology must be explicitly approved by the department of psychology.

Courses from other institutions that do not meet these conditions may still be acceptable for elective credit to meet general university requirements. Students should consult their departmental or college adviser about such courses.

Senior Honors Program

A small number of students is selected each year for the honors program. Selection criteria are promising academic performance (3.0 overall grade point average and 3.25 psychology grade point average minimum), expressed interest, recommendation by departmental adviser, and capacity of program to take new students. Emphasis is on small seminar and individual research work by the student.

Courses (PSYC)

102-3 Introduction to Psychology. (University Core Curriculum) [IAI Course: S6 900] An examination of the variables related to the origins and modifications of human behavior using the viewpoints and techniques of contemporary psychology. Purchase of syllabus from local vendor required.

211-4 Research Methods in Psychology. An introduction to the use of scientific methods in the study of behavior. Considerations of experimental design and methodology are integrated with the treatment of data analysis, interpretation of results and writing of a research report. Students will write a research proposal, conduct an experiment and write a report of the experiment. This course satisfies the CoLA Writing-Across-the-Curriculum requirement. Lecture and laboratory. Prerequisite: 102.

222-3 Effects of Recreational Drugs on Mind and Body. Describes the physiological and psychological effects of substances used as recreational drugs for their psychoactive effects. Drugs discussed will include alcohol, amphetamines, cocaine and other stimulants, the barbiturates, methaqualone, the psychedelics, marijuana, tranquilizers, and the opiates. The purpose of the course is to provide the student with the facts concerning the effects of these drugs and the potential for their abuse and physiological and psychological dependence on them.

301-3 Child Psychology. The biological and psychological development of the child from birth through puberty, and relevant research methods and results. Prerequisite: 102.

302-3 Psychobiology. A survey of the role of biological processes in the behavior of humans and other species. Topics include structure and function of the nervous system, behavioral endocrinology, psychopharmacology, sensorimotor functions, sleep and waking, motivation and emotion, reinforcement, psychopathology, and learning and memory.

303-3 Adolescence and Young Adulthood. Examines interrelated psychological, biological and social aspects of development during adolescence and young adulthood based on a life-span perspective of development. Prerequisite: 102.

304-3 Adulthood and Aging. Examines the interrelated psychological, biological, and social aspects of development during middle and later adulthood based on a life-span perspective of development. Neuropsychological changes associated with normal and pathological aging will also be considered. Prerequisite: 102.

305-3 Psychology of Personality. The inferred patterns underlying an individual's unique reactions to the environment. Investigates the motivation, development, and methods of changing these patterns, and how personality processes are studied. Prerequisite: 102.

307-3 Social Psychology. Surveys contemporary issues such as love and friendship, shyness and loneliness, sexual attitudes and behavior, management of impressions made on others, attitude change and persuasion, leadership, group processes, aggression, and helping behavior. Prerequisite: 102.

308-3 Psychology of Motivation. Examines variables affecting motivation in animals and humans. Topics include motivation based on cultural processes as well as those based on biological needs. Prerequisite: 102.

309-3 Psychology of Learning. Principles and laws of learning as derived from the classical and instrumental learning literature — acquisition, extinction, punishment, persistence, generalization, discrimination, motivation, drives, and incentives. Prerequisite: 211.

310-3 Cognitive Psychology. A survey of theory and research on attention, memory, language behavior, and problem solving. The principal orientation will be the information processing approach to the study of behavior. Prerequisite: 102.

311-4 Field Research Methods in Psychology. An introduction to field and other quasi-experimental methods appropriate for use in settings in which the researcher can exercise minimal control and manipulation. Included are designs and analytical methods for exploring cause-effect relationships in naturalistic settings. Lecture and laboratory. Prerequisite: 211 or consent of instructor.

320-3 Industrial and Organizational Psychology. Introduction to industrial and organizational psychology. Emphasis is on psychological methods and psychological factors in the analysis and design of jobs and the

work environment, and on the training, motivation, and evaluation of performance in the work setting. Prerequisite: 102.

322-3 Personnel Psychology. Examines the methods of psychology used in the selection, placement, and evaluation of employees. Government regulations requiring equal opportunity, psychological measurement concepts, and employee performance evaluation in the work environment are covered. Prerequisite: 102.

323-3 Psychology of Employee Relations. Applied human relations at work focusing on interpersonal and small-group behavior. Covers effective communication, employee morale and motivating others, behavior modification, leadership and group dynamics, human relations and the law, and stress and coping. Prerequisite: 102.

333-3 Psychology of Women. (Same as Women's Studies 341.) An examination of empirical evidence on the biological, psychological, and social functioning of women, describing women's roles, the genetic versus social determinants of women's behavior, and the implications for women's potential. Prerequisite: 102 or consent of instructor.

340-3 Introduction to Clinical and Counseling Psychology. Provides an in-depth understanding of the nature of two major specialties in the field of psychology: clinical and counseling psychology. Students will examine the historical origins of the two areas, study their major theoretical definitions, compare and contrast the areas, and sample empirical and practitioner activities unique to them. Prerequisite: 102.

371-3 Problem Solving and Decision Making. Indicates how problem solving and decision making can be characterized and evaluated and how they might be modified or improved. Research and theory in related areas of psychology are reviewed with emphasis on the role of thinking, problem solving, expert judgment, and decision making in man-machine systems. Prerequisite: 102.

389-1 to 9 Seminar: Selected Topics. Varied content. Offered as need exists and as faculty interests and time permit. May be repeated as topics vary. Prerequisite: consent of instructor.

391-1 to 9 Individual Project. Individual study, research or experience under the supervision of a member of the Department of Psychology faculty. Of all credits that a student completes for PSYC 391, 392, 393, and 394, a maximum of three hours from any or all of these courses may count towards the major. Mandatory Pass/Fail. Prerequisite: consent of instructor.

392-1 to 9 Individual Project. Individual study, research or experience under the supervision of a member of the Department of Psychology faculty. For use in those cases where the faculty member deems a graded course to be appropriate. Of all credits that a student completes for PSYC 391, 392, 393, and 394, a maximum of three hours from any or all of these courses may count towards the major. Prerequisite: consent of instructor.

393-1 to 9 Preprofessional Practicum. Directed experience in human services or other activities relevant to psychology at a public or private institution, agency, or organization. The experience is usually, although not necessarily, on a volunteer basis. Enrollment must be approved in advance by the director of undergraduate field placements for the Department of Psychology. Mandatory Pass/Fail. Prerequisite: consent of instructor.

394-1 to 9 Undergraduate Practicum in the College Teaching of Psychology. Supervised practicum in the college teaching of psychology for selected senior psychology majors. Of all credits that a student completes for Psychology 391, 392, 393, and 394, a maximum of three hours from any or all of these courses may count towards the major. Prerequisite: senior psychology major and permission of instructor.

407-3 Theoretical Issues in Learning. An introduction to the major theoretical issues in learning and their importance. A brief review of the history of such problems will be followed by a summary of the current research concerning these issues. Traditional figures in learning theory will be considered within the context of their positions on specific questions. Prerequisite: 211 and 309 or equivalent or graduate status.

409-3 History and Systems of Psychology. A review of the conceptual and empirical antecedents of modern psychology. Prerequisite: 211 and senior status, or graduate status.

411-3 Principles of Training. An in-depth coverage of practical problems concerned with training to which the principles of learning derived from pure laboratory investigations can be applied. Prerequisite: 211 and 309, or graduate status.

413-3 Individual Differences. Reviews the reliable and theoretically significant individual and group differences that have been revealed by research in the behavioral sciences. Examines differences in general intelligence, specific verbal and spatial abilities, stylistic and personality characteristics, as well as such group differences as sex, race, and socioeconomic status. Prerequisite: 211 and 305 or graduate status.

415-4 Psychopharmacology. A survey of the effects of drugs on the normal and abnormal behavior of humans and animals. A primary focus is upon understanding drug influences on behavior in relation to actions on the nervous and endocrine systems. Prerequisite: 211 and 302, or graduate status.

416-3 Recovery of Function Following Brain Damage. A survey of experimental animal and human clinical research as they relate to behavioral recovery following damage in the central nervous system. Recent theories and literature are stressed. Prerequisite: 211 and 302 or consent of instructor, or graduate status.

419-3 Behavior and Heredity. Provides an overview of the experimental and quantitative methods used in studying behavioral differences associated with genetic variables. Elementary aspects of genetics will be included in the course, which will examine several aspects of both human and nonhuman behavior. Prerequisite: 211 or consent of instructor, or graduate status. Zoology 214, Biology 305 or equivalent recommended.

420-3 Advanced Industrial and Organizational Psychology. Advanced examination of topics in industrial and organizational psychology focusing more heavily than Psychology 320 on applications of psychology to human resource management, such as job analysis, performance appraisal systems, personnel selection and training. In addition to exams covering course content, students are required to apply knowledge and skills learned on individual and group projects. Prerequisite: 211.

421-3 Psychological Tests and Measurements. Introduction to test theory and test development. Detailed coverage of selected tests from such areas as intelligence, aptitude and personality. Prerequisite: 211 or graduate status.

431-3 Psychopathology. A comprehensive overview of major psychological problems, including emotional, personality, psychotic and developmental disorders. Problems will be described in terms of their principal features, and research and theory will be reviewed. Strategies of assessment, the utility and limitations of diagnostic systems, alternative views of abnormality, and clinical research methods will be examined. Prerequisite: 211 and 305, or consent of instructor or graduate status.

432-3 Psychopathology of Childhood. An extensive review and systematic evaluation of theories and research pertaining to the behavior disorders of childhood. Emphasis will be upon empirical data and the implications of these data for the classification and treatment of these disorders. Prerequisite: 211 and 301 or graduate status.

440-3 Theories of Personality. A review and evaluation of major personality theories and their supporting evidence. Prerequisite: 211 and 305 or consent of instructor, or graduate status.

441-3 Helping Skills in Clinical and Counseling Psychology. Provides systematic training in helping skills for students considering clinical or counseling psychology as a career. Students learn to identify and demonstrate such skills as paraphrasing, reflection of feeling, interpretation, and confrontation, and will use them in practice situations. Prerequisite: 211 and 340 and senior standing in psychology major.

445-4 Introduction to Psycholinguistics. (Same as Linguistics 445.) A broad spectrum introduction to psycholinguistics. Topics to be covered include general methodology for the study of psycholinguistics, the nature of language, theories of human communication, language comprehension and production, first and second language acquisition, meaning and thought, natural animal communication systems and language of the brain. Prerequisite: 211.

451-3 Advanced Child Psychology. An assessment of concepts, methods, and research techniques within selected topic areas of developmental psychology. Prerequisite: 211 and 301, or consent of instructor, or graduate status.

461-3 Advanced Social Psychology. Critical examination of contemporary theories and research in social psychology. Practice in application of scientific findings to real-life problems of individuals and groups. Issues treated in depth are chosen for relevance to student's personal needs and career interests. Not for psychology graduate students. Prerequisite: 211 and 307 or graduate status.

463-3 Attitudes and Persuasion. An examination of theory and research regarding the formation of attitudes, the modification of attitudes, and the techniques for measuring attitudes. Prerequisite: 211 and 307 or graduate status.

464-4 Social Factors in Personality and Adjustment. (Same as Sociology 426.) Review of selected theoretical orientation and research traditions in social psychology. Comparison of different theoretical and methodological approaches: symbolic interaction, role theory, developmental and social psychology, theories of attitude organization and change, studies of belief and value systems, theories of socialization. Prerequisite: 211, 307.

465-3 Needs Assessment Techniques for Mental Health Planning. Surveys methodological techniques for assessing the need for mental health services including developing a resource inventory, use of census and other social indicator data, rates under treatments, community and consumer surveys, hearing and site visits. Attention is also paid to method of presenting results of need assessments to lay boards. Prerequisite: 211 and senior standing in psychology major, or graduate status, or consent of instructor.

489-1 to 12 Seminar: Selected Topics. Varied content. Offered as need exists and as faculty interests and time permit. Prerequisite: 211 and consent of instructor.

499-6 (3,3) Senior Honors in Psychology. Intensive study in selective areas for students qualified for honors work in psychology. A research paper or equivalent will be required. Not for graduate credit. Prerequisite: 211 and consent of instructor.

Psychology Faculty

Berenbaum, Sheri A., Professor, Ph.D., University of California-Berkeley, 1977.

Brutten, Gene J., Professor, *Emeritus*, Ph.D., University of Illinois, 1957.

Buck, Terence D., Associate Professor, Ph.D., University of Missouri, 1968.

Cashel Mary Louise, Assistant Professor, Ph.D., University of North Texas, 1997.

Chwalisz, Kathleen D., Associate Professor, Ph.D., University of Iowa, 1992.

Corcoran, Kevin J., Associate Professor, Ph.D., University of Connecticut, 1984.

DiLalla, David Louis, Associate Professor, Ph.D., University of Virginia, 1989.

DiLalla, Lisabeth F., Associate Professor, Ph.D., University of Virginia, 1987.

Dillon, Ronna, Professor, Ph.D., University of California, Riverside, 1978.

Dollinger, Stephanie M. Clancy, Associate Professor, Ph.D., Syracuse University, 1989.

Dollinger, Stephen J., Professor, Ph.D., University of Missouri-Columbia, 1977.

Dunagan, Shirley S., Instructor, *Emerita*, M.S., University of Tennessee, 1954.

Ehrenfreund, David, Professor, *Emeritus*, Ph.D., State University of Iowa, 1947.

Gannon, Linda, Professor, Ph.D., University of Wisconsin, 1975.

Gilbert, Brenda O., Associate Professor, Ph.D., University of Florida, 1985.

Gilbert, David G., Professor, Ph.D., Florida State University, 1978.

Graham, Jack W., Professor, *Emeritus*, Ph.D., Purdue University, 1951.

Guthrie, Robert V., Professor, *Emeritus*, Ph.D., U.S. International University, 1970.

Hetherington, John D., Assistant Professor, Ph.D., University of Arizona, 1992.

Jensen, Robert A., Associate Professor, Ph.D., Northern Illinois University, 1976.

Kelley, Noble H., Professor, *Emeritus*, Ph.D., State University of Iowa, 1936.

Lit, Alfred, Professor, *Emeritus*, Ph.D., Columbia University, 1948.

McHose, James H., Professor, *Emeritus*, Ph.D., University of Iowa, 1961.

McKillip, John A., Professor, Ph.D., Loyola University of Chicago, 1974.

Meltzer, Donald, Professor, Ph.D., University of Pittsburgh, 1963.

Mitchell, Thomas O., Associate Professor, *Emeritus*, Ph.D., University of Colorado, 1969.

Molfese, Dennis L., Professor, Ph.D., Pennsylvania State University, 1972.

Molfese, Victoria J., Professor, Ph.D., Pennsylvania State University, 1974.

O'Donnell, James P., Associate Professor, Ph.D., University of Pittsburgh, 1965.

Pitz, Gordon F., Professor, Ph.D., Carnegie-Mellon University, 1963.

Purcell, Thomas D., Associate Professor, *Emeritus*, Ph.D., Southern Illinois University, 1965.

Radtke, Robert C., Associate Professor, Ph.D., State University of Iowa, 1963.

Ramanaiah, Nerella, Professor, Ph.D., University of Oregon, 1971.

Ringuette, Eugene L., Associate Professor, *Emeritus*, Ph.D., Purdue University, 1963.

Sagrestano, Lynda M., Assistant Professor, Ph.D., University of California at Berkley, 1993.

Schill, Thomas R., Professor, Ph.D., Oklahoma State University, 1963.

Schmeck, Ronald R., Professor, Ph.D., Ohio University, 1969.

Shea, Sandra, Associate Professor, Ph.D., Vanderbilt University, 1980.

Shoemaker, Donald J., Professor, *Emeritus*, Ph.D., Ohio State University, 1955.

Smith, Douglas C., Associate Professor, Ph.D., Kansas State University, 1977.

Snyder, John F., Associate Professor, Ph.D., Loyola University, 1965.

Stockdale, Margaret S., Associate Professor, Ph.D., Kansas State University, 1990.

Swanson, Jane L., Associate Professor, Ph.D., University of Minnesota, 1986.

Taub, Diane E., Associate Professor, Ph.D., University of Kentucky, 1986.

Tinsley, Howard E. A., Professor, Ph.D., University of Minnesota, 1971.

Vaux, Alan C., Professor and *Chair*, Ph.D., Trinity College, Ireland, 1979; Ph.D., University of California at Irvine, 1980.

Westberg, William C., Professor, *Emeritus*, Ph.D., Pennsylvania State University, 1948.

Wendt, Rachel, Assistant Professor, *Emerita*, Ph.D., Southern Illinois University, 1966.

Yanico, Barbara, Associate Professor, Ph.D., Ohio State University, 1977.

Radio-Television (Department, Major, Courses)

The Department of Radio-Television prepares students for positions in broadcasting and telecommunications by combining practical and theoretical courses in broadcasting with a broad liberal arts background.

To be admitted to the Department of Radio-Television, incoming freshmen must fulfill the SIUC admission requirements. See Chapter 2 under Admission of Freshman.

Transfer students seeking admission from another institution or from another program at SIUC must have a 2.0 grade point average or above. Transfer students with fewer than 26 semester hours must have a 2.0 grade point average as well as meeting admission requirements of entering freshman.

Mass Communication and Media Arts 201 must be completed and English requirements described below must be met before students may advance into other radio-television courses, with the exception of 300.

All radio-television students are required to maintain an overall 2.0 grade point average in the major. If a radio-television student does not achieve an accumulative 2.0 grade point average in the major in any one semester, that student is subject to departmental warning. Students who are on departmental warning and do not earn an overall 2.0 grade point average in radio-television courses in a subsequent semester will be placed in a status of departmental dismissal. A student who has been placed on collegiate dismissal will be transferred to Pre-Major Advisement or may seek transfer to another University program if the student has an overall SIUC grade point average of 2.0. A dismissed student may appeal to the Undergraduate Committee for reinstatement into the program.

Each student enrolled in the radio-television program must declare a specialization in one of the three areas described below before progressing to any radio-television course beyond Mass Communication and Media Arts 201 and Radio-Television 300¹.

Additionally, each student must complete by the end of the sophomore year, or if a transfer student, by the end of the first semester of enrollment at SIUC and prior to enrollment in any radio-television course beyond Radio Television 300 or Mass Communication and Media Arts 201:

1. English 101, 102 with a grade of B and, if the student receives less than a B in either English 101 or 102, English 290 with a grade of C;
2. A passing grade in Mass Communication and Media Arts 201 before taking any courses in Radio-Television. This course may not be repeated more than once.

Transfer students must complete a minimum of 21 hours in radio-television courses at the University to earn a degree.

Bachelor of Arts Degree, College of Mass Communication and Media Arts

<i>University Core Curriculum Requirements</i>	41
Mass Communication and Media Arts Core	6
Mass Communication and Media Arts 201 and 202	
Language Requirement	6-8
Foreign language or computer programming must be selected to meet this requirement.	
<i>Requirements for Major in Radio-Television</i>	33-42
Radio and Television 300, 308, 393	9
Specialization Requirements ¹	12
Electronic Media Marketing and Management: 305, 351, 357 or 377, 473	
News: 310, 311, 370, 470	
Production: (Television/Video) 365, 369, 383, 481 or 465 (Radio/Audio) 274, 363, 383, 463	
Radio-Television Electives	12-21
<i>Minor in Related Area</i>	15
All 15 hours must be in a single department beyond University Core Curriculum courses. Students should check with departmental advisors for a list of recommended minors.	
<i>General Electives</i>	8-19
<i>Total</i>	120

¹A Radio-Television student has the option to create his/her own directed specialization with the guidance of a faculty member and the approval of the Undergraduate Curriculum Committee before taking any Radio-Television classes beyond Radio-Television 300 and Mass Communication and Media Arts 201.

Radio and Television Suggested Curricular Guide

FIRST YEAR			SECOND YEAR		
	FALL	SPRING		FALL	SPRING
MCMA 201, 202	3	3	RT 300	3	-
ENGL 101, 102	3	3	RT Course	3	3
SPCM 101 MATH 113	3	3	Computer/Foreign Language ...	3	3
Science	3	3	Minor	-	3
Fine Arts	3	-	Humanities	3	-
Humanities	-	3	Social Science	3	3
			General Elective	-	3
<i>Total</i>	15	15	<i>Total</i>	15	15
THIRD YEAR			FOURTH YEAR		
	FALL	SPRING		FALL	SPRING
RT 308	3	-	RT Course	6	-
RT Course	3	6	RT 393	-	3
Minor	3	3	RT Specialization 400 Level	-	3
Integrative Studies	3	3	Minor	3	3
General Elective	3	3	General Elective	6	4
			Health Education	-	2
<i>Total</i>	15	15	<i>Total</i>	15	15

Courses (RT)

200-3 Understanding Radio and Television. Review of responsibilities of television viewers and radio listeners, critical viewing and listening of radio and television programs. Analysis of techniques and content of programs. Lecture, discussion, critical review. Not for majors in radio-television. Credit will not count toward the major. Not open to students with credit in 300 or Mass Communication and Media Arts 201.

274-3 Entertainment Arts Business. Designed as an introductory course for students interested in the commercial-business aspects of music, video, film and radio and television industry. Lectures are given by outstanding executives and individuals engaged in the various segments of the industry, such as production, editing and distribution of product, copyright, cash flow, production of video, film and television. Students travel to Nashville, Tennessee, where various activities take place including tours of video and television studios, production sound stages, editing studios, performance rights societies, as well as publishing and recording companies. The course is designed to show the workings and business aspects of the industry, bringing the students into personal contact with individuals who are involved on a daily basis with the industry, and to clarify in the students' minds the qualifications a person must have or develop in order to be successful in the industry. Prerequisite: second semester freshman.

300-3 Radio-Television Writing Performance Production. Introduction to the functions, theories, materials and techniques of writing, performing and production for radio and television. Students write, perform and produce in radio and television studio laboratories. Extra fee for books and supplies: \$15. Prerequisite: sophomore standing.

305-3 Audience Research and Ratings Analysis. The interrelationships of programs and audiences and program research. Ratings analysis, station surveys. Survey of relevant research in radio-television. Prerequisite: 300, Mass Communication and Media Arts 201.

308-3 Radio-Television Policies, Laws, and Regulations. Development of American radio and television policies from their constitutional base through federal law, regulatory agencies and the judicial system. Rights and responsibilities of radio and television organizations and of the public. Required for majors. Prerequisite: 300 and Mass Communication and Media Arts 201.

310-3 Radio-Television News Writing. Selecting, writing, rewriting, and editing news material for presentation on radio and television information programs. Laboratory hours required. Prerequisite: 300 and Mass Communication and Media Arts 201.

311-3 Radio News. The basic techniques of writing, rewriting and editing news from local and wire service sources, plus reporting and editing by means of audio tape. Students must have daily access to an audio tape recorder and are encouraged to obtain their own cassette recorder. Laboratory hours required. Prerequisite: 310 or consent of the instructor.

325-3 Survey of Cable Communications. History and projections of CATV industry growth, patterns of regulation and use. Relation of cable communication to other media, and to society. Extensive readings and discussion of literature. Prerequisite: 300 and Mass Communication and Media Arts 201, or consent of instructor.

340-3 Television Criticism. History and analysis of television genres. Analysis and evaluation of technique, content, and aesthetic effect of television messages. Extensive reading in critical literature, written assignments. Prerequisite: 300 and Mass Communication and Media Arts 201.

351-3 Broadcast Programming. Discussion and analysis of radio and television programming formats, strategies and scheduling. Prerequisite: 305 or consent of instructor.

357-3 Broadcast and Cable Promotion. Theory and management of campaigns promoting audience and sales growth by broadcasters, cable and pay-cable services and program distributors; including design, implementation and evaluation of campaigns and materials. Prerequisite: 305 or consent of instructor.

360-3 Radio-Television Performance. The development of disciplines controlling vocal and visual mechanics and interpretative performances for announcers, newscasters, interviewers and narrators of various radio and television situations. Laboratory hours required. Prerequisite: 310 or 383 or concurrent enrollment or consent of instructor; Communication Disorders and Sciences 104 or Theatre 203 recommended.

363-3 Radio and Audio Production. Planning and producing for the special requirements of radio. Study of different formats (documentary, drama, commercials, promotional announcements): production of short forms in laboratory exercises. Laboratory hours required. This course also includes an introduction to multi-track recording and digital editing and an examination of audio production techniques utilized in related fields. Prerequisite: C in 300 and Mass Communication and Media Arts 201; Radio Television 310 or 383 or concurrent enrollment or consent of instructor.

365-3 Producing for Television. Planning and producing for the special requirements of the medium. Research, planning and budgeting for individual and series productions. Laboratory hours required. Prerequisite: C in 300 and Mass Communications and Media Arts 201; Radio Television 310 or 383 or concurrent enrollment.

369-3 Directing for Television. Applications of communications theory and unique characteristics of the medium in directing televised productions. Laboratory hours required. Prerequisite: C in 300 and Mass Communication and Media Arts 201; Radio Television 365 with a grade of B or better; Radio Television 340 or concurrent enrollment.

370-3 Television News. Reporting, writing, editing and producing television news for broadcasting using professional grade cameras, recorders and editors. Students will participate in daily news gathering for televi-

sion newscasts. Laboratory hours in concentrated blocks of time for reporting are required. Prerequisite: 311 or consent of instructor.

377-3 Radio and Television Sales and Sales Management. A marketing approach to station and system sales, use of ratings, RAB, TVB, and station promotion material. Includes selling methods and techniques and sales management techniques (systems approach, inventory control, pricing). Prerequisite: 305 or consent of instructor.

380-3 New Technologies. An examination of the factors and forces which lead to expansion and improvements in telecommunications technologies with particular emphasis on the new technologies. The social issues raised or addressed by these technologies will also be analyzed to give students a broad and far-sighted view of the future directions of an expanding industry. Prerequisite: 300 and Mass Communication and Media Arts 201.

383-3 Writing for Radio-Television. Experience in writing radio and television formats, and announcements — commercial, public service and promotional. Develops critical awareness and analytical attitude toward broadcast writing, and stresses imagination and creative writing skills. Frequent written assignments in and out of class. Prerequisite: C or better in 300 and Mass Communication and Media Arts 201.

384-3 (1,1,1) Radio-Television Practicum. Practical experience in broadcast operations on the campus. Instructor makes determination on student duties, based on needs of the Broadcast Service or the department and the desires of the student. A minimum of four hours per week. Students obtain application form from academic adviser. Prerequisite: consent of instructor. Mandatory Pass/Fail.

391-2 Independent Study. Area of study to be determined by student in consultation with radio-television faculty. No more than two students may work on the same project. Prerequisite: consent of instructor.

393-3 Radio, Television, and Society. The interrelation of radio and television with social patterns and economic and political systems. Major theories of broadcasting. Effects of these media on society. Required for major. Prerequisite: 300 and Mass Communication and Media Arts 201, senior standing or consent of instructor.

395-2 to 6 Internship Program. News, production, performance or marketing/management work experience with a non-university professional organization. The student will undertake a work experience beyond that available at the university. No retroactive credit for previous work experience. The student must submit an application to seek an internship no later than the fourth week of the semester prior to the internship and receive approval from the undergraduate curriculum committee. May be repeated up to six hours. Student may earn no more than nine internship hours from 395 and 396. Prerequisite: junior standing, gpa of 2.50 or better and consent of instructor.

396-6 Hollywood Studies/Internship. Supervised work and study experience in Los Angeles, California, in areas of production, program development, casting, distribution, etc. Students work closely with Hollywood professionals and attend seminars on various facets of the industry. Summer session only; fees include prearranged housing. Students may earn no more than nine internship hours from 395 and 396. Prerequisite: junior standing, gpa of 2.50 or better, faculty coordinator approval.

430-3 News and Public Affairs Programming. Examination of history and scope of news and public affairs programming. Effects of public affairs on programs and audiences. Responsibility of radio and television stations in news and public affairs and community relations. Issues in news and public affairs including ethics. Prerequisite: senior standing, Mass Communication and Media Arts 201.

450-3 Documentary - Style Production. Develop, write and produce documentary - style and long - form broadcast stories intended for broadcast. Research, develop, write and produce several mini - documentaries and/or one 30 - 60 minute documentary. Prerequisite: 365 and/or consent of instructor; 465 recommended.

453-3 Educational and Public Broadcasting. The history and regulatory structure of educational and public broadcasting in the United States, with special emphasis on organizations regulated under the Public Broadcasting Act of 1967. Methods of funding public stations, programming, and careers in educational and public broadcasting considered. Prerequisite: 300 and Mass Communication and Media Arts 201.

461-3 Multimedia Production. Students can learn the fundamental concepts and skills necessary to produce simple interactive multimedia presentations using an assortment of media. Prerequisite: senior standing and consent of instructor.

463-3 Advanced Audio Production. Advanced theory of sound, patching, multichannel and digital production, as it applies to Radio/TV and related fields. Advanced commercial and promotional audio projects; laboratory hours required. Students participate in studio and on-location audio sessions. This course also introduces the concepts of SMPTE and MIDI: students learn to interface computers with video and musical instruments for various audio applications. Prerequisite: C in 363 or consent of instructor.

465-3 Advanced Television Production. Instruction and practical experience in the development of programming for television. Students will produce individual and/or small group projects for broadcast and follow the projects through from concept to completion. Many of the projects will air on WSIU-TV. Prerequisite: 365 or consent of instructor.

467-3 International Broadcasting. An examination of broadcasting theory related to rural audiences in the United States and abroad. History of farm broadcasting in the United States and abroad. Communication in development is explored. Research on effects on rural audiences. Open to non-majors with consent of instructor. Prerequisite: senior standing, 300 and Mass Communication and Media Arts 201.

470-3 Television News Field Production. Advanced field reporting for television. Students will work under the supervision of the instructor to develop, investigate and report news stories for television. This process will also study the development and production of the mini-documentary. Class will utilize professional grade video recorders, cameras and editing systems. Prerequisite: 370 or consent of instructor.

473-3 Radio-Television Management Principles. Management history, management styles and systems, sales management (marketing and developing sales packages), maximizing inventory, sales training, gamesmanship, leadership and financial evaluation of broadcast properties, procedures and objectives of broadcast management. Students will be required to prepare: audience analysis for sales/programming; computer generated inventory reports; and marketing strategies. Not for graduate credit. Prerequisite: 305 and senior standing.

480-3 The Internet and Mass Communication. A critical examination of the Internet from a mass communication perspective. Emphasis on theory, media convergence, broadcast entertainment, news, marketing, advertising and public relations opportunities and strategies, including Web site design and basic HTML. Prerequisite: consent of instructor.

481-3 Non-Broadcast Television. An examination of the special requirements of business, industrial and medical uses of television. Management, budgeting, planning and evaluating productions. Exploration of cable television, satellites and other technologies used in non-broadcast situations. Prerequisite: 365 or concurrent enrollment or consent of instructor.

482-3 Client-Based Production. Small teams work with a client to create the video projects. Students will be responsible for budgeting, working with clients directly, scripting, shooting, editing and follow through on the project. The class simulates how a production house operates. Prerequisite: 465 or 481 or consent of instructor.

483-3 Advanced Radio-Television Writing. Exercises in writing broadcast manuscripts including documentary, drama and children's programming. Prerequisite: senior standing and 340, 310 or 383, consent of instructor.

489-2 to 6 Radio Television Workshop. Advanced work in various areas of radio-television and interrelated disciplines. Prerequisite: consent of instructor.

491-3 Independent Study. Area of study to be determined by student in consultation with graduate faculty. No more than two students may work on same project. Students must complete an application form which is available from the departmental adviser. Prerequisite: senior standing and consent of instructor.

Radio-Television Faculty

Brown, William Edward, Assistant Professor, *Emeritus*, M.S., Southern Illinois University, 1974.

Collette, Larry A., Assistant Professor, Ph.D., Michigan State University, 1991.

Dybvig, Homer E., Associate Professor, *Emeritus*, Ph.D., Southern Illinois University, 1970.

Foote, Joe S., Professor and *Dean*, Ph.D., University of Texas at Austin, 1979.

Gher, Leo, Assistant Professor, M.S., Southern Illinois University, 1980.

Hodgson, Scott R., Associate Professor, M.S., Southern Illinois University, 1990.

Keller, Kenneth R., Associate Professor, M.T.V., University of Illinois, 1966.

Kale, Barbara K., Assistant Professor, Ph.D., Florida State University, 1994.

Kim, Haeryon, Assistant Professor, Ph.D., University of Iowa, 1990.

McCray, Judith, Assistant Professor, M.A., Rutgers University, 1985.

Murrie, Michael H., Associate Professor, M.A., University of Missouri, 1977.

Philbin, John, M.F.A., Lecturer, Southern Illinois University, 1995.

Robbins, Buren, Associate Professor, *Emeritus*, M.A., University of Iowa, 1935.

Shipley, Charles W., Professor, *Emeritus*, Ph.D., Florida State University, 1971.

Sitaram, K. S., Professor, Ph.D., University of Oregon, 1969.

Starr, Michael F., Associate Professor and *Chair*, J.D., Georgetown University, 1965.

West-Johnson, Phylis, Associate Professor, M.A., Texas A&M University, 1986

Radiologic Sciences (Major, Courses)

The program in Radiologic Sciences prepares qualified health care professionals. These health care professionals function as first assistants to the physician in medical practice, utilizing radiant energy, ionizing radiation (X-Ray), other forms of electromagnetic energy, and sound waves for the imaging, diagnosis, and treatment of disease. Each distinct specialty option has its own educational criteria, accreditation and clinical training requirements. The traditional medical specialties of radiography, radiation therapy, medical diagnostic sonography, and magnetic resonance imaging/computed tomography, are available at SIUC.

The program prepares technologists for entry-level positions and also prepares the technologist who wishes to gain additional expertise. The basic radiologic technology curriculum is designed to meet the guidelines for the Joint Review Committee on Education in Radiologic Technology. The baccalaureate with options in either medi-

cal diagnostic sonography, magnetic resonance imaging/computed tomography, or radiation therapy meets specific accreditation guidelines and provides opportunities for professional growth for radiologic technologists.

To be considered for enrollment into the Radiologic Sciences program, prospective students must first obtain admission to the University. To be approved for entry into the major and professional sequences, applicants must submit additional application material.

The Radiologic Sciences program has a *Linkage Agreement* with Southeastern Illinois College, Rend Lake College and Shawnee College. If you have questions about this agreement, contact the community college advisor or SIUC Health Care Professions at (618) 453-8801.

Prospective students must complete the following courses at SIUC or approved articulated substitutes at another accredited college or university before beginning the professional sequence courses: English 101 and 102, Speech Communication and Media Arts 101, Mathematics 108 or 113, Zoology 115, Philosophy 104, Psychology 102, Health Care Professions 241, Chemistry 106 or Physics 101. All applicants who apply to the program are evaluated on college mathematics and science grades and the number of hours of college credit and the college gpa. An applicant's grade point average as calculated by SIUC and the total earned credits will be considered. Preference will be given to Illinois residents residing in central and southern Illinois (Interstate 80 and below).

Accreditation guidelines place limits on the enrollment in this program. Students begin the professional sequence each fall. In addition, approximately twenty graduates from associate degree radiologic technology programs will be accepted to each professional program option for degree completion. Admission is available either summer, fall or spring semesters. The professional sequence begins in the fall semester only.

Bachelor of Science Degree, College of Applied Sciences and Arts

The Bachelor of Science degree in Radiologic Sciences consists of forty-one semester hours of University Core Curriculum requirements, fifty-three professional core hours, and twenty-six semester hours in one of the Radiologic Sciences' options.

MEDICAL DIAGNOSTIC SONOGRAPHY (ULTRASOUND) OPTION

This option is designed to prepare qualified medical diagnostic sonographers. The courses and clinical experiences meet accreditation criteria.

Ultrasound, one of the more recently developed specialties in diagnostic radiology, utilizes a high frequency sound wave similar to sonar. The reflected echoes from the body tissues are displayed as two-dimensional images on a video monitor. Some medical problems that are diagnosed with ultrasound include gallstones, tumors, cysts and fetal abnormalities. The technologist who performs the examination is called a sonographer. Sonographers work under the supervision of either a doctor of medicine or osteopathy who is responsible for the use and interpretation of the ultrasound procedure.

While most sonographers work in hospitals, particularly in radiology, cardiology, vascular surgery and obstetrical departments, many will also find employment in outpatient clinics and mobile services. Ultrasound equipment manufacturers also employ sonographers to market their products.

RADIATION THERAPY OPTION

Radiation therapy technologists assist radiation oncologists in all aspects of the administration of radiation therapy treatment; their primary responsibility consists of exposing specific areas of the patient's body to prescribed doses of ionizing radiation. Radiation therapy technologists also provide appropriate patient care; this includes

exercising judgment when administering treatment and adhering to the principle of radiation protection for the patient, self and others.

MAGNETIC RESONANCE IMAGING AND COMPUTED TOMOGRAPHY OPTION

This option is designed to prepare technologists in the advanced areas of magnetic resonance imaging (MRI) and computed tomography (CT). The MRI and CT components will emphasize physics, technology, instrumentation and sectional anatomy. Technologists employed in these capacities will be supervised by a board certified radiologist, but will be afforded a greater amount of responsibility and independence in the performance of their duties.

Bachelor of Science Degree in Radiologic Sciences, College of Applied Sciences and Arts

University Core Requirement.....	41
Including: CHEM 106 or PHYS 101, PHIL 104, PSYC 102, ZOOL 115, MATH 108 or 113, ENGL 101 and 102, SPCM 101	
Professional Core Requirements	53
Including: HCP 241, RAD 102, 112, 132, 202, 212, 222, 232, 312, 332, 342, 352, 372a,b	
Radiologic Sciences Option (Select One).....	26
Ultrasound: RAD 361, 371, 381, 391, 401, 411, 421, 431	
Radiation Therapy: RAD 360, 370, 380, 390, 400, 410, 420	
MRI and CT: RAD 364, 374, 384, 394, 404, 414	
Total.....	120

Radiologic Sciences Suggested Curricular Guide with Options in Ultrasound, Radiation Therapy, MRI and CT

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
ENGL 101, 02	3	3	RAD 102.....	3	-
MATH 108 or 113	3	-	RAD 222.....	-	10
SPCM 101.....	-	3	RAD 112.....	3	-
ZOOL 115	3	-	RAD 372a.....	-	1
HCP 241	4	-	RAD 132.....	3	-
CHEM 106 or PHYS 101	-	3	RAD 212.....	-	2
PHIL 104	3	-	RAD 202.....	3	-
PSYC 102.....	-	3	Core Elective.....	3	2
Core Elective	-	3			
Total.....	16	15	Total.....	15	15
THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
RAD 332.....	10	-	Option Courses	13	13
RAD 372b.....	1	-			
RAD 342.....	3	-			
RAD 232.....	-	3			
RAD 312.....	-	3			
RAD 352.....	-	4			
Core Electives.....	3	6			
Total.....	17	16	Total.....	13	13

Courses (RAD)

102-3 Introduction to Radiologic Technology and Radiographic Technique. Designed to introduce the student to the medical radiography profession. Students will began their study of medical terminology, professional behavior, ethics, theory of radiographic exposure and radiation protection. Prerequisite: admission to major and consent of department.

112-3 Anatomy and Positioning I. Designed to provide the student radiographer with didactic instruction and laboratory experience which will lead to the development of clinical competencies. It will serve as a foundation for the development of advanced clinical skills as well. The competencies developed are chest, abdomen, upper and lower extremities. Laboratory fee: \$75. Prerequisite: admission to program and consent of program adviser.

132-3 Anatomy and Positioning II. A continuation of 112 designed to further develop clinical skills and competencies through continued didactic and laboratory experience. Positioning competencies developed in this course include radiography of the pelvic girdle, spine and digestive system. Eight weeks. Prerequisite: 112 and consent of program adviser.

202-3 Radiographic Physics. This course will concentrate on general theories of physics as they relate to matter, mechanics and electricity. It also involves the study of the nature and production of radiation and understanding of the complexity of radiographic equipment and circuitry. Prerequisite: 102 and 112.

212-2 Special Procedures. Includes the study of contrast producing agents which are used to visualize specific parts of the body. Radiographic technique employed in this type of imaging is highly specialized and will be studied in depth. Prerequisite: 222, 372a and consent of program adviser.

222-10 Radiography Clinic I. The student is assigned to a selected clinical education center for the entire semester. During this semester, the student radiographer is expected to practice and perfect the professional skills developed the previous semester on campus. The student is supervised by a qualified radiographer and directed in specific experiences designed to meet the objectives for the semester. Prerequisite: 102, 112, 132, 202.

232-3 Selected Systems (Radiography). Designed to instruct the student in the anatomy and positioning of the skull, digestive, excretory, biliary and human reproductive systems. Routine projections common to most health facilities will be described, demonstrated and then practiced on a phantom in the energized lab. A \$50 laboratory fee is required. Prerequisite: 222, 372a, and consent of department.

312-3 Radiographic Pathology. Deals with the etiology and processes of trauma and disease. Emphasis will be placed on radiographic pathology of the body systems and the manifestation of this pathology. Prerequisite: 332, 372b, and consent of program adviser.

322-3 Sectional Anatomy, Computed Tomography and Magnetic Resonance Imaging. Includes the study of anatomical structures from the transverse, sagittal and coronal section perspectives. Also included is an introduction to computed tomography and magnetic resonance imaging technology. Emphasis will be placed on (1) identifying the imaging plane demonstrated; (2) identifying anatomy visualized in a given plane; and (3) differentiating between images produced by computed tomography and magnetic resonance imaging. Prerequisite: 332 and 372b.

332-10 Radiography Clinic II. The student returns to the clinical education center for this semester. The student radiographer is expected to continue to practice previously developed professional skills and to assume performance of additional examinations studied during the previous semester. This semester of clinical study includes proficiency testing which, when completed, will allow the student to assume full responsibility for the examination in the future. Prerequisite: 212 and 232.

342-3 Radiation Biology. Designed to instruct the student radiographer in the principles and terminology of radiobiology. Emphasis will be placed on how these principles relate to radiation protection for both the patient and radiographer. Also included are introductions to nuclear medicine and radiation therapy technology. Prerequisite: 332 and 372b.

352-4 Special Imaging Modalities. This course provides the student with the knowledge and understanding relevant to the function, operation and application of the various techniques used in image production. Prerequisite: 332 and 372b.

360-2 Introduction to Radiation Oncology. The rationale for and methods employed in the treatment of cancer by radiotherapy. The role of radiotherapy and its relationship to other modalities utilized in the treatment of cancer are explored and defined. Also, an introduction to the principles and concepts of radiotherapy. Prerequisite: limited to major.

361-2 Ultrasound Terminology. A study of the diagnostic foundations of clinical medicine pertinent to sonography including obtaining the clinical history, the pathologic basis for disease, related clinical signs and symptoms, and emergency medical procedures. The medical terms pertaining to sonography are discussed. Prerequisite: limited to major.

362-4 Radiography Clinic III. Last clinical course of the program. Students are expected to demonstrate knowledge and competency of radiographic examinations listed in categories one through nine. Image evaluations will be performed on a weekly basis by the clinical instructor as well as behaviors/attitudinal ratings. Prerequisite: 312, 322, 342 and 352.

364-3 Computed Tomography Technology. This course will focus on the physical principles of computed tomography. Topics of discussion will include the history of computed tomography, its instrumentation, data acquisition, image reconstruction, contrast agents, patient care/safety, quality assurance and imaging applications for the head, neck, chest/mediastinum, spine, abdomen and pelvis. In addition, special imaging applications for pediatrics/geriatrics, interventional, trauma and oncology will be discussed. Prerequisite: 362 or consent of instructor.

370-3 Techniques and Applications of Radiotherapy. The technical aspects of radiotherapy including dosimetry, shielding, radioactive sources and methodology. Prerequisite: limited to majors.

371-3 Ultrasound Imaging I. A study of the clinical applications within abdominal sonography including interpretation of clinical laboratory tests, related clinical signs and symptoms, and normal sonographic patterns. This course includes a laboratory section on basic scanning techniques and protocol. Prerequisite: limited to majors.

372-4 (1,1,2) Radiographic Film Critique. (a) Concurrent with clinical study, the student will participate in the technical review of the films taken fulfilling introductory objectives set for this course. Prerequisite: 102, 112, 132, 202. (b) The student will continue to develop abilities to review an examination from a technical standpoint utilizing more advanced knowledge to fulfill course objectives. Prerequisite: 212, 232. (c) Final competencies in the technical production and review of the finished radiograph are determined and evaluated. Also

included is a review of the knowledge learned in the program. Prerequisite: 312, 322, 342, 352 or consent of department.

374-4 Sectional Anatomy and Imaging Applications. This course focuses on identifying anatomical structures produced by Computed Tomography (CT) and Magnetic Resonance Imaging (MRI) scanners in the transverse, sagittal, coronal and orthogonal planes. The CT and MR images place emphasis on the head, neck, spine, chest, abdomen, pelvis, musculoskeletal (joints) and vascular system. In addition, discussion on dynamic scanning, fast scanning, spiral scanning and three-dimensional imaging will be presented. Prerequisite: 362 or consent of instructor.

380-3 Physics of Radiotherapy. Physical principles and application thereof, specifically in radiation therapy. A review of basic radiotherapy principles which will be expanded upon in later courses. Prerequisite: limited to majors.

381-3 Ultrasonic Instrumentation. Basic physics of ultrasound; ultrasonic wave generation and propagation and influences on sound beams related to propagation and reflection methods of influencing ultrasonic energy by transducer design; variation in sound beam patterns; interfaces with basic instrumentation techniques and the doppler effect. Basic types of equipment and quality control are discussed. Prerequisite: limited to majors.

384-4 Magnetic Resonance Imaging. This course will focus on the physical principles of magnetic resonance imaging. Topics of discussion will include the history of magnetic resonance imaging, its physics, instrumentation, imaging techniques, contrast agents, patient care/safety, quality assurance and imaging applications for the head, spine, chest, abdomen, pelvis and musculoskeletal (joints). Prerequisite: 362 or consent of instructor.

390-2 Oncologic Nursing. Nursing techniques utilized on patients with cancer and those in the terminal state of illness. Emphasis on the psychological needs and problems of those suffering terminal illness. Special topics will include care of the skin during and after radiotherapy, assisting patients in learning home care and dealing empathetically with patients and relatives. Prerequisite: limited to majors.

391-3 Sectional Anatomy. A study of sectional anatomy in the transverse, longitudinal and coronal planes, with emphasis on the organs of sonographic interest within the abdomino-pelvic cavity. Prerequisite: limited to majors.

394-3 CT and MRI Pathology. This course is designed as an overview of pathologies commonly seen in computed tomography and magnetic resonance imaging. Along with distinguishing various types of pathologies as seen on CT and MRI scans, emphasis will be placed on a general understanding of the descriptions, etiology, signs and symptoms, manifestations, treatment and prognosis of those pathologies. Prerequisite: 362 and consent of instructor.

400-3 Radiation Dosimetry and Instrumentation. The principles of radiation dosimetry and related instrumentation. Topics include aspects of calibration, monitoring, protection and dose determination of x and gamma radiation. Prerequisite: limited to majors.

401-10 Clinical Internship I. Observation and practice of all clinical duties performed in the ultrasound department. Basic instruction and scanning experience in abdominal sonography. Prerequisite: 361, 371, 381, 391 and concurrent enrollment.

404-10 Clinical Internship I. The student is assigned to a selected clinical education center for the entire semester. During this semester, the student is expected to practice and perfect the professional skills developed the previous semester on campus. The student will be supervised by qualified MRI/CT personnel and directed in specific experiences designed to meet the objectives for the semester. Not for graduate credit. Prerequisite: 364, 374, 384, 394.

410-10 Radiotherapy Clinical Internship I. A practicum in which the student functions under direct and remote supervision and applies the knowledge gained in the classroom; functioning in the clinical setting to interpret and execute the radiotherapist's orders and operate the ionizing radiation equipment during actual patient treatments. Prerequisite: 360, 370, 380, 390 and 400.

411-2 Ultrasonic Imaging II. A study of the clinical applications within the sonographic specialties of obstetrics-gynecology, neurosonography, echocardiography and peripheral vascular doppler. Topics of discussion include related clinical symptoms and laboratory tests, and normal and abnormal sonographic patterns. This course includes a laboratory section on basic scanning techniques. Prerequisite: 361, 371, 381, 391.

414-2 Special Studies in CT and MRI. Individual projects and problems selected by the student with approval of the instructor and clinical faculty culminating in a written paper. Not for graduate credit. Prerequisite: 364, 374, 384 and 394 and concurrent enrollment in 404.

420-3 Special Problems. A review of interesting and/or rare cases to include discussion of clinical symptoms, treatment patterns, technical pitfalls, survival statistics and patient/family interactions. Both written and oral seminar responses will be included in this course. Prerequisite: concurrent enrollment in 410.

421-1 Ultrasound Case Review. A review of interesting and/or rare cases to include discussion of clinical symptoms, sonographic patterns and technical pitfalls. Prerequisite: concurrent enrollment in 401.

431-2 Biological Effects of Ultrasound. The potential hazardous effects of ultrasound. Topics to be discussed include thermal, cavitation and direct effects of ultrasound. Prerequisite: 361, 371, 381, 391.

Recreation (Major, Courses)

The Recreation major prepares the student for positions in the management of leisure services. The curriculum, built on a broad core, offers professional courses within the department and draws from many related majors for competencies and skills in the

preparation of professionals for the recreation field. The curriculum emphasizes the practical as well as the theoretical aspects of recreation by offering supervised field experience and internships in various recreational settings throughout Illinois and the nation.

Students admitted to recreation must meet the College of Education requirements and follow their procedures for acceptance. Incoming freshmen must rank in the top one-half of their high school graduating class and have a standard composite ACT score of 19 or higher. Transfer students seeking admission from another institution or from another program at SIUC must have a 2.25 grade point average or above. Transfer students with fewer than 26 semester hours must have a 2.25 grade point average or above as well as the rank and test score requirements of an entering freshman. In order to be admitted to practicum courses, students must have a grade point average of 2.25 and the consent of the instructor. Students who do not meet the College of Education requirements must be screened and approved by the department undergraduate faculty.

Students majoring in recreation are required to complete 41 hours of University Core Curriculum courses, 35 hours of professional core courses and 44 hours of professional courses in at least one area of specialization. Electives for their chosen area of specialization must have adviser approval. A total of 79 hours beyond the University Core Curriculum is required. A grade of C or better is required in all Recreation prefix required courses.

Recreation offers courses leading to specializations in therapeutic recreation and leisure services management. A careful selection of recommended electives can be used to build competencies in recreation administration, outdoor recreation and commercial recreation.

Students majoring in recreation should meet early in their college careers with a faculty member in the department to identify their area of interest and recommended electives. Within the field of recreation, certifications may be required for employment in different interest areas and the faculty member will discuss these with interested students. All students are encouraged to obtain the American Red Cross First Aid Certificate. Students focusing on a therapeutic orientation should attempt to acquire either academic or practical experience related to physiological, psychological and sociological functioning and the concomitant effect of disability. As soon as possible, recreation majors will decide on one of the two specializations and elect courses for their area of specialization.

Bachelor of Science Degree, College of Education

<i>University Core Curriculum Requirements</i>	41
<i>Requirements for Major in Recreation</i>	79
English 290	3
Recreation 300, 301, 302, 303, 305, 367, 380-4, 490-12	32
One of the specializations listed below	44
Total	120

LEISURE SERVICES MANAGEMENT

Recreation 365, 375, 425, 445, 465	15
Accounting 210 or 220	3
Workforce Education and Development 306 or Curriculum and Instruction 483a	3
Six hours selected from Psychology 301, 303, 304, 305, 307, 320, 323, 333	6
Electives (May be subject to certification requirements.)	17
Total	44

THERAPEUTIC RECREATION SPECIALIZATION

Recreation 304, 460, 461, 462	12
-------------------------------------	----

Six hours selected from Recreation 440a, 440b, 440c, 440d, 440e	6
Psychology 305 and 431	6
Allied Health Careers Specialties 141	4
Health Education 311	3
Electives (in accordance with certification requirements)	<u>13</u>
Total	44

Courses (REC)

- 300-3 Introduction to Leisure Services.** An introduction to the professional field of recreation. A study of the historical, philosophical, sociological, psychological, and economic development of leisure and recreation. Insight into the fundamental concepts, values, and functions of leisure and recreation as an individual emotional experience as well as a necessary part of community life.
- 301-3 Leadership in Recreation.** An examination of leadership theories and styles appropriate for activity leaders in recreation. Emphasis will be placed on leadership process and methodology as applicable to leisure service settings.
- 302-3 Program Design and Group Dynamics.** A study of essential elements and basic principles involved with the organization and administration of various types of recreation programs and services. Prerequisite: 300 or concurrent enrollment.
- 303-3 Recreation for Individuals with Disabilities.** An examination of the philosophy and principles of recreation for individuals with disabilities as well as an investigation of programming/activity alternatives. Presentation of general physiological, psychological and social characteristics of various disabilities and societal and personal attitudes are explored. Prerequisite: 300 or consent of instructor.
- 304-3 Principles and Practices of Therapeutic Recreation.** Study of the existing practices and principles utilized in therapeutic recreation; professionalism; legislation; team approaches; activity analysis; supervision functions; community resources; special recreation programs. Prerequisite: 300, 302, 303.
- 305-1 Pre-Practicum.** An introduction to the responsibilities and opportunities of field experience within the field of recreation. The course includes field experience identification and selection, resume preparation, letters of application, interview procedures, professional skills, and development.
- 330-3 Outdoor Education.** Philosophy and principles underlying the programs and methods in modern outdoor education and school camp programs with emphasis on curriculum enrichment through our natural resources. Expenses for required field trip not to exceed \$20. Prerequisite: 300, 302, 303 or consent of department.
- 331-3 Outdoor Living Skills.** Introduction to basic living skills in wilderness environments. Topics include low-impact camping, food rations planning, clothing, travel techniques, equipment, and navigation. Sixteen class meetings plus a one-week wilderness trip. Trip fee not to exceed \$250. Wilderness Education Association Stewardship Certification may be earned.
- 365-3 Administration of Leisure Services.** Administrative procedures in park and recreation departments — organization, finance, personnel, facilities, program, public relations, and other areas of administration. Prerequisite: 302.
- 366-3 Workshop in Administrative Issues in Recreation.** Designed to examine in a workshop current administrative issues in recreation such as practices and trends in budget and finance, legal aspects, grant writing, personnel practices and policies, and others. Prerequisite: 365.
- 367-3 Research and Evaluation in Recreation.** An introduction to methodological approaches to the scientific study of phenomena inherent to recreation and leisure. The course includes basic research and evaluation designs, research and evaluation report writing, analysis of current leisure research, and use of computers in leisure research and evaluation. Prerequisite: 300, 302, 303.
- 375-3 Commercial Recreation and Tourism.** Problems of commercial recreation and tourism will be addressed in this class. Topics include: free enterprise, marketing, transportation industry, attractions, food and lodging industry and government's role in tourism.
- 377-3 Overview of Campus Recreation.** Focuses on the administration, organization, planning, implementation, and evaluation of programs and facilities in the campus recreation field. Specific topics addressed include historical and philosophical aspects, administrative practices, competitive and non-competitive programming, future trends and issues, budgeting, public relations, professional associations, and examination of individual characteristics of a variety of campus recreation programs conducted nationwide.
- 380-2 to 6 (2,2,2) Field Work in Recreation.** Supervised leadership experiences in a public or private recreation setting. Students register for two hours per semester. Only one field work may be done per semester. Students must complete field experience in at least two areas of specialization. A minimum of four hours and a maximum of six hours of credit may be earned. Prerequisite: 300, 301, 302, 303 and 305; a minimum SIUC gpa of 2.25.
- 385-1 to 2 Readings in Recreation.** Selected readings in professional publications for the purpose of becoming acquainted with the types of research current in community, park, special populations, outdoor recreation, outdoor education, and related fields. For recreation majors only. Prerequisite: 15 hours in recreation.
- 386-1 to 2 Problems in Recreation.** Designed to enable students to effectively request funds, request personnel, initiate new programs, or support recreation leisure services. Prerequisite: 15 hours in recreation.
- 401-3 Fundamentals of Environmental Education.** (Same as Agriculture 401.)
- 423-3 Environmental Interpretation.** (Same as Agriculture and Forestry 423.)
- 425-3 Planning and Design of Recreational Facilities.** An examination of major design considerations for a variety of recreation facilities such as recreation centers, recreation sport complexes, parks, visitors centers,

and natatoriums. Special attention will be given to long range facility planning. Prerequisite: senior or graduate standing.

431-3 Expedition Leadership. Course focuses on professional leadership of highly adventurous wilderness trips. Emphasis is on development of sound judgment, decision-making, and teaching in wilderness expeditions. Three to five week expeditions in a wilderness setting. Trip fee not to exceed \$500. Outdoor Leader Certification by Wilderness Education Association is offered.

440-15 (3,3,3,3,3) Therapeutic Recreation for Specific Populations. Students will examine problems and characteristics of individuals with various disabilities. Emphasis is upon the role of therapeutic recreation with these specific populations in institutional and community settings: (a) therapeutic recreation for individuals with psychological disorders, (b) therapeutic recreation for individuals with developmental disabilities (c) therapeutic recreation for the aged, (d) therapeutic recreation for those in the criminal justice system, and (e) therapeutic recreation for individuals with physical disabilities. Prerequisite: 300, 302, 304 or consent of department.

445-3 Outdoor Recreation Management. Philosophy and principles underlying the growth and development of outdoor recreation management. Outdoor recreation is examined in terms of historical values, long range planning, site design, visitor needs, and environment impact. A laboratory cost of up to \$14 may be required. Prerequisite: 300, 302, 303 or consent of department.

460-3 Therapeutic Recreation Management. Organization and administration of therapeutic recreation programs in hospitals, nursing homes, schools for the retarded, detention centers, prisons and other institutions. Financial management and reimbursement issues are stressed. Prerequisite: 300, 302, 304 or consent of department.

461-3 Program Design and Evaluation for Therapeutic Recreation. To equip the student with skills necessary to systematically design and evaluate programs. Philosophy and nature of systems, system analysis, assessment, individual treatment planning, implementation and evaluation of treatment programs. Prerequisite: 300, 302, 304, one section of 440, or consent of department. Concurrent enrollment in 380.

462-3 Facilitation Techniques in Therapeutic Recreation. This course is designed to provide an understanding of the basic processes and techniques of therapeutic recreation and to develop technical competencies necessary for the provision of quality therapeutic recreation services. Emphasis is on the skillful application of various processes and techniques to facilitate therapeutic changes in the client and the client's environment. Prerequisite: 304 or concurrent enrollment.

465-3 Advanced Administrative Techniques. Designed to examine current administrative topics in recreation such as practices and trends in budget and finance, legal aspects, grant writing, personnel practices and policies and others. Prerequisite: 365, 380.

475-3 to 39 (3 credits per topic) Recreation Workshop. Critical examination and analysis of innovative programs and practices in one of the following areas: (a) Budget and Finance, (b) Campus Recreation Services, (c) Commercial, (d) Maintenance of Areas and Facilities, (e) Outdoor Recreation, (f) Personnel, (g) Technological Advances, (h) Therapeutic Recreation—Aging, (i) Therapeutic Recreation—Developmental Disability, (j) Therapeutic Recreation—Emotional Illness, (k) Therapeutic Recreation—Physical Disability, (l) Therapeutic Recreation—Prisons and Detention Centers, (m) Tourism.

485-2 to 12 Practicum in Outdoor Education. A supervised experience in a professional setting. Emphasis on administrative, supervisory, teaching, and program leadership in outdoor, conservation, or environmental education setting. Costs for travel are the responsibility of the student. Prerequisite: consent of instructor.

490-12 Internship in Recreation. Supervised practicum experience in a professional recreation setting. Emphasis on administrative, supervisory, teaching, and program leadership in the student's area of specialization. For undergraduate credit only. Must be taken during student's senior year. Prerequisite: completion of all requirements for major in recreation or consent of course coordinator; 2.25 grade point average.

Health Education and Recreation Faculty

Aaron, James E., Professor, *Emeritus*, Ed.D., New York University, 1960.

Abernathy, William, Assistant Professor, *Emeritus*, M.S.Ed., Southern Illinois University, 1963.

Boydston, Donald N., Professor, *Emeritus*, Ed.D., Columbia University, 1949.

Bridges, A. Frank., Professor, *Emeritus*, D.H.S., Indiana University, 1952.

Dinger, Mary K., Assistant Professor, University of Missouri, Columbia, 1993.

Drolet, Judy C., Professor, Ph.D., University of Oregon, 1982.

Fetro, Joyce V., Associate Professor, Ph.D., Southern Illinois University Carbondale, 1987.

Glover, James, Associate Professor, Ph.D., University of Maryland, 1980.

O'Brien, William, Professor, *Emeritus*, D.Rec., Indiana University, 1967.

Glover, Regina, Associate Professor and Chair, Ph.D., University of Maryland, 1983.

Grissom, Deward K., Professor, *Emeritus*, Ed.D., Columbia University, 1952.

Hailey, Robert, Assistant Professor, *Emeritus*, M.Ed., University of Missouri, Columbia, 1959.

Kittleson, Mark J., Professor, Ph.D., University of Akron, 1986.

Lacey, Ella P., Associate Professor, *Emerita*, Ph.D., Southern Illinois University, 1979.

LeFevre, John R., Professor, *Emeritus*, Ed.D., Teachers Colleges, Columbia University, 1950.

Malkin, Marjorie J., Associate Professor, Ed.D., University of Georgia, 1986.

McEwen, Douglas, Professor, Ph.D., Michigan State University, 1973.

O'Dell, Irma, Assistant Professor, Ph.D., University of New Mexico, 1992.

Ogletree, Roberta J., Associate Professor, H.S.D., Indiana University, 1991.

Phillips, Frances K., Associate Professor, *Emerita*, M.A., Columbia University, 1940.

Richardson, Charles E., Professor, *Emeritus*, Ed.D., University of California, Los Angeles, 1959.

Ritzel, Dale O., Professor, Ph.D., Southern Illinois University, 1970.

Russell, Robert D., Professor, *Emeritus*, Ed.D., Stanford University, 1954.

Sliepcevich, Elena M., Professor, *Emerita*, D.P.E., Springfield College, 1955.

Smith, Deborah A., Assistant Professor, Ph.D., Indiana University, 1998.

Teaff, Joseph, Professor, Ed.D., Columbia University, 1973.

Vaughn, Andrew T., Professor, *Emeritus*, D.Ed., Columbia University, 1958.

Vitello, Elaine, Professor, Ph.D., Southern Illinois University, 1977.

Vogel, Herbert, Assistant Professor, M.S., Indiana University, 1954.

Welshimer, Kathleen J., Associate Professor, Ph.D., University of North Carolina, 1990.

Wilken, Peggy A., Clinical Assistant Professor, Ph.D., Southern Illinois University Carbondale, 1995.

Zunich, Eileen M., Assistant Professor, *Emerita*, Ph.D., Southern Illinois University, 1970.

Rehabilitation Services (Major, Courses)

The major in Rehabilitation Services is part of the Rehabilitation Institute. The mission of the baccalaureate program in Rehabilitation Services is to prepare students to work with people with disabilities in a variety of settings in a wide range of positions. Students will learn the knowledge and skills necessary to assist individuals with disabilities to obtain and maintain meaningful employment, to live as independently as possible, to participate to the fullest extent possible in their communities, and to assume control of their lives. Students who graduate from the program will be prepared to fill various roles including developmental training coordinator, independent living specialist, employment specialist, habilitation program coordinator, rehabilitation coordinator, substance abuse technician, community-based training instructor, case manager, job placement specialist, case manager, work adjustment specialist, residential service director, and job coach supervisor. They will be employed in settings such as vocational training programs, residential and day treatment programs, independent living centers, community rehabilitation programs, substance abuse programs, and hospitals. Students also will be well prepared to enter a master's degree program in rehabilitation or a related field.

Students majoring in Rehabilitation Services are required to complete 41 hours of University Core Curriculum courses, 49 hours in the major, and 30 hours of electives which are chosen by the student in conjunction with the advisor.

Students must maintain a 2.0 on a 4.0 scale overall and a 2.5 in major coursework to remain in the program.

Bachelor of Science Degree, College of Education

<i>University Core Curriculum Requirements</i>	41
From within the Disciplinary Studies courses, students are encouraged to take Psychology 102, Sociology 108	
<i>Requirements for Major in Rehabilitation Services</i>	49
Psychology 211	4
Rehabilitation 400, 401, 405, 406, 407, 421, 445b, 445h, 452, 461, 470, 474, 495	45
<i>Electives by Advisement</i>	30
Suggestions include: Communication Disorders and Sciences 301, 385; Health Education 311, 410; Psychology 222, 301, 303, 304, 431; Recreation 303; Rehabilitation 419, 445f, 446, 471; Sociology 303, 321; Special Education 400, 430	
<i>Total</i>	120

Courses (REHB)

400-3 Introduction to Rehabilitation. An introduction to the broad field of rehabilitation, to include the processes (services), facilities and personnel involved.

401-3 Disability, Diversity and Society. This course will address the relationship between prevailing societal attitudes and environmental designs and the opportunity of persons with disabilities to participate fully in society. It will examine the physical, mental, gender and cultural characteristics of persons with disabilities as determinants of their needs, values, aspiration and opportunities. How public policies can promote or limit inclusion and equal opportunities for persons with disabilities will also be addressed.

403-3 Independent Living Rehabilitation. Survey of principles and methods of independent living for persons with disabilities with attention to client assessment for rehabilitation, effective techniques for specific individuals with disabilities, and the variety of types and organization of independent living programs.

405-3 Introduction to Aging and Rehabilitation. Introduction to the field of aging. Includes social, political, economic and legal issues pertinent to an aging society and rehabilitation.

406-3 Introduction to Behavior Analysis and Therapy. A survey of the principles and procedures in behavior analysis and therapy and the scope of its application to human needs and problems.

407-3 Best Practices in Rehabilitation. Best Practices in Rehabilitation provides students with the pragmatic skills and knowledge necessary for casework in rehabilitation including: writing intakes and progress notes; interviewing/active listening skills; accreditation; being a team member; technical writing; confidentiality/duty to warn; and career development skills that will be applicable to case manager and consumer. Not for graduate credit.

419-1 to 3 Cross-Cultural Rehabilitation. (Same as Black American Studies 490.) Major focus on the relationship/comparison of basic cultural, economic, and psychosocial processes relative to the rehabilitation of people in contemporary societies. Prerequisite: consent of instructor.

421-3 Vocational Development and Placement. Relates the psychosocial meaning of work, process of vocational development, theories of occupational choice and labor market trends to current and innovative methods of job development, selective placement, and follow-up with the handicapped. Prerequisite: consent of instructor.

445-3 to 12 Rehabilitation Services with Special Populations. Procedures and programs pertinent to the care and treatment of special populations. Three semester credits will ordinarily be granted for each unit. Prerequisite: consent of instructor.

(a)-9 (3,3,3) Alcohol and Drug Abuse.

(e)-9 (3,3,3) Physically Disabled.

(b)-9 (3,3,3) Emotionally Disturbed.

(f)-9 (3,3,3) Public Offender.

(c)-9 (3,3,3) Juvenile Offender.

(g)-9 (3,3,3) Sensory Disabled.

(d)-9 (3,3,3) Mental Retardation.

(h)-9 (3,3,3) Developmental Disabilities.

446-3 Psychosocial Aspects of Aging. Selected theories of psychosocial aspects of aging will be presented and the psychological and sociological processes of aging with the ensuing changes will be related to these conceptual frameworks. Included for discussion and related to field experience will be such concerns as stress reactions to retirement, physical disabilities, impact of reduced economic resources, and other personal-social changes in aging. Topics will address the knowledge base needed by students concerned with rehabilitation of aging clients in institutional, community and home settings. Therapeutic techniques to ameliorate these stresses will be an integral part of the course.

447-3 Biomedical Aspect of Aging. The aging process in a life-span developmental perspective; biological theories of aging, physiological changes in middle and old age and their effects on behavior, performance potential, and psychosocial functioning; senility and other age-related disabilities, their prevention and management; geriatric health maintenance and rehabilitation; institutionalization; death and dying. No prerequisites.

452-3 Behavior Change Applications. An overview of the development and evolution of applied behavior analysis. Applications of behavior analysis to problems of social significance in institutions, schools, and communities are surveyed. Prerequisite: 406 or consent of instructor.

453-1 to 4 Personal and Family Life Styling. The academic and personal competencies that are characteristic of fully-functioning, integrated persons within the context of our twentieth century environment will be systematically reviewed for adoption in every day living as well as in professional functions. Participants will focus on and experience life styling theories, models, and skills for their own growth and development and learn to assess basic risk-factors in their rehabilitation clients and families prior to helping them program a more balanced, synergistic, and holistic approach to living. Prerequisite: consent of instructor.

461-3 Introduction to Alcoholism and Drug Abuse. Orientation and introduction to a variety of topics related to alcohol and drug abuse; surveys history, theories of cause and development, consequences of abuse, classes and types of drugs, legislation, and other current issues relating to substance abuse and addiction.

468-3 Sexuality and Disability. Research and rehabilitation practices pertaining to the unique psychosexual aspects of various chronically disabling conditions will be examined.

470-3 Rehabilitation Administration. Problem solving approach to current issues in organizational structure and management functions in public and voluntary rehabilitation agencies, decision making, leadership, program development and evaluation.

471-3 Rehabilitation and Treatment of the Alcohol and Drug Abusers. A comprehensive examination of substance abuse treatment and rehabilitation; focus on various treatment approaches, treatment settings, and types of counseling to include an overview of individual, group, and family techniques; the rehabilitation counselor's role is addressed and necessary skills in treating drug and alcohol abusers. Prerequisite: 461 or consent of instructor.

474-3 Introduction to Staff Supervision. This course provides an introduction to the skills necessary to supervise staff in rehabilitation settings. Students will receive training and practice in using management styles, time management, delegation, disciplining, coaching, behavioral supervision, goal-setting, performance evaluation, giving feedback, keeping documentation, listening, conflict resolution and facilitating meetings. Not for graduate credit.

479-3 Technical Writing in Rehabilitation. Fundamentals of writing skills for rehabilitation specialists, including preparation and drafting of program/grant proposals, vocational evaluation/work adjustment reports, news releases and other publicity materials. Prerequisite: consent of instructor.

490-1 to 6 (1 to 3 per semester) Readings in Rehabilitation. Supervised readings in selected areas. Prerequisite: consent of instructor.

494-1 to 12 Work Experience in Rehabilitation. Rehabilitation 494 and 594 both cannot be counted for a graduate degree, only one or the other can satisfy requirements toward a master's degree. Prerequisite: consent of department.

495-9 Internship in Rehabilitation. Supervised field experience in an organization or agency providing rehabilitation services. Not for graduate credit.

Rehabilitation Institute Faculty

Allen, Harry A., Professor, *Emeritus*, Ed.D., University of Arkansas, 1971.

Anderson, John O., Professor, *Emeritus*, Ph.D., Ohio State University, 1950.

Austin, Gary, Professor, *Director*, Ph.D., Northwestern University, 1973.

Beck, Richard, Associate Professor, Ph.D., University of Wisconsin-Madison, 1987.

Bender, Eleanor, Assistant Professor, *Emerita*, M.S., Southern Illinois University, 1962.

Benshoff, John J., Associate Professor, Ph.D., University of Northern Colorado, 1988.

Blache, Stephen E., Professor, Ph.D., The Ohio University, 1970.

Bordieri, James E., Professor, Ph.D., Illinois Institute of Technology, 1980.

Brackett, I. P., Professor, *Emeritus*, Ph.D., Northwestern University, 1947.

Brutten, Gene J., Professor, *Emeritus*, Ph.D., University of Illinois, 1957.

Bryson, Seymour L., Professor, Ph.D., Southern Illinois University, 1972.

Crimando, William, Professor, Ph.D., Michigan State University, 1980.

Cuvo, Anthony J., Professor, Ph.D., University of Connecticut, 1973.

Davis, Paula K., Professor, Ph.D., Southern Illinois University Carbondale, 1989.

Dickey, Thomas W., Assistant Professor, *Emeritus*, M.A., Southern Illinois University, 1964.

Falvo, Donna R., Professor, Ph.D., Southern Illinois University, 1978.

Gardner, Margaret S., Associate Professor, *Emerita*, Ph.D., Northwestern University, 1960.

Greene, Brandon F., Professor, Ph.D., Florida State University, 1979.

Grenfell, John E., Professor, *Emeritus*, Ed.D., Oregon State University, 1966.

Hafer, Marilyn, Associate Professor, *Emerita*, Ph.D., Texas Tech University, 1971.

Hoshiko, Michael S., Professor, *Emeritus*, Ph.D., Purdue University, 1957.

Janikowski, Timothy, Associate Professor, Ph.D., University of Wisconsin-Madison, 1988.

Lee, Robert E., Associate Professor *Emeritus*, Ph.D., University of Minnesota, 1964.

Lehr, Robert, Professor, *Emeritus*, Ph.D., Baylor University, 1971.

Poppen, Roger L., Professor, Ph.D., Stanford University, 1968.

Renzaglia, Guy A., Professor, *Emeritus*, Ph.D., University of Minnesota, 1952.

Riggat, Theodore F., Professor, Ed.D., University of Northern Colorado, 1977.

Rubin, Harris B., Professor, *Emeritus*, Ph.D., University of Chicago, 1965.

Rubin, Stanford E., Professor, Ed.D., University of Illinois, 1968.

Schultz, Martin C., Professor, *Emeritus*, Ph.D., University of Iowa, 1955.

Schumacher, Brockman, Professor, *Emeritus*, Ph.D., Washington University, 1969.

Simpson, Kenneth O., Assistant Professor, Ph.D., University of Nebraska-Lincoln, 1995.

Smith, Linda McCabe, Assistant Professor, Ph.D., Southern Illinois University Carbondale, 1994.

Taylor, Darrell, Associate Professor, Ph.D., University of South Florida, 1992.

Trammel, Rebecca, Clinical Instructor, M.S., Eastern Illinois University, 1986.

Vieceli, Louis, Associate Professor, *Emeritus*, M.S.Ed., Southern Illinois University, 1959.

Wright, W. Russell, Associate Professor, Ph.D., Southern Illinois University, 1974.

Respiratory Therapy Technology (Major, Courses)

Respiratory Therapy is an allied health specialty concerned with the treatment, diagnostic testing, management, control and care of patients with deficiencies and abnormalities associated with respiration. It involves the therapeutic use of medical

gases and administering apparatus, environmental control systems, medications, ventilator control and breathing exercises, cardiopulmonary resuscitation, maintenance on natural, artificial and mechanical airways, and diagnostic cardiac and pulmonary function studies.

The respiratory therapy curriculum is designed to prepare students to become registered respiratory therapists. Completion of the course provides graduates the educational requirements necessary to take the national registry examination administered by the National Board of Respiratory Care (NBRC) and the Pulmonary Specialty Exam (CPFT).

To be considered for enrollment into the Respiratory Therapy program, prospective students must first obtain admission into the University. To be approved for entry into the professional sequence, applicants must submit additional application material, including at least one semester (15 semester hours) of college-level course work with a grade point average of C (2.0 gpa) or better.

The Respiratory Therapy Technology program has a *Linkage Agreement* with Southeastern Illinois College, Rend Lake College and Shawnee College. If you have questions about this agreement, contact the community college advisor or SIUC Health Care Professions at (618) 453-8801.

Prospective students must complete the following courses at SIUC or approved articulated substitutes offered at another accredited college or university before taking the first professional sequence courses: Health Care Professions 105 and 241, Chemistry 106, English 101, Physics 101, Psychology 102, Speech Communication 101, Mathematics 108, 110 or 113, Zoology 115 or 118 and Microbiology 201. An applicant's grade point average as calculated by SIUC and the total earned credits will be considered. Preference will be given to Illinois residents residing in central and southern Illinois (Interstate 80 and below).

Accreditation guidelines place limits on the enrollment in this program. Twenty-five students will be selected to begin the professional sequence each fall. The professional sequence begins in the fall only.

A firm background in science and the ability to communicate is mandatory to satisfactorily complete the program. The professional respiratory therapy courses consist of both formal classroom, laboratory and clinical experiences. The clinical experience will be in a variety of locations to provide maximum opportunity for procedures. These sites are chosen in consultation with the student and the clinical coordinator of the program. It is highly advisable that the student complete all prerequisites before starting the professional sequence in the second year. The student should have all program application materials completed as soon as possible, since enrollment is limited. The minimum length of time to complete this program is two and one-half calendar years (five academic semesters and one summer session). While the regular semesters will utilize classrooms, laboratories and clinical education experiences, the final fall semester is a full-time clinical internship at a designated full-service hospital. In the final semester, exit evaluations are administered by the program and adjunct faculty to assess clinical and theoretical competency. Students are required to complete these satisfactorily to obtain a certificate of completion from the program. Articulation with other programs can offer the ability to apply program course requirements fully toward baccalaureate credit.

Associate in Applied Science Degree, College of Applied Sciences and Arts

<i>Requirements for Major in Respiratory Therapy Technology</i>	
University Core Curriculum Requirements	19
English 101, Speech Communication 101, Mathematics 108, 110 or 113, Chemistry 106, Physics 101, Psychology 102, Zoology 115 or 118	
Support Courses	15

Health Care Professions 105 and 241, Health Care Management or Advanced Technical Studies 364, Microbiology 201, Information Management Systems 229	
Major Courses	48
Respiratory Therapy 203, 213, 223, 243, 253, 263, 273, 283, 293, 303, 313, 323, 343, 353, 363, 373a,b, Allied Health Careers Specialties 300	
Total	82

Courses (RESP)

203-5 Principles of Respiratory Therapy. A course designed for the beginning respiratory therapy student. An introduction to the state of the art and fundamental principles and devices used in respiratory care practice. Significance is given to indications and contra-indications for therapeutic modalities, appropriate equipment selection, airway management and rehabilitation. Five hours lecture per week. Prerequisite: respiratory therapy major, consent of instructor and completion of a college physics course.

213-1 Respiratory Therapy Exercises. Concepts and theories are applied in a laboratory setting to provide and enhance a working knowledge with respiratory therapy equipment, the physical principles of equipment operation and pulmonary therapeutic techniques. One hour credit for three laboratory hours weekly. \$25 laboratory fee is required. Prerequisite: concurrent enrollment in 203.

223-2 Patient Care Techniques. Presents basic principles and essential skills necessary to perform patient care safely and effectively. Skills include medical asepsis, terminology, communication, patient assessment and positioning, medical ethics and behavioral problems unique to patients with respiratory illnesses. Lecture. Prerequisite: consent of program adviser.

243-3 Basic Cardiopulmonary Physiology. A presentation of physiological functions including acid-base relationships, gas perfusion, functions of ventilatory control, ventilation perfusion analysis, cardiopulmonary hemodynamics and blood gas analysis. Prerequisite: Allied Health Careers Specialties 141, physics, chemistry, zoology or equivalents.

253-1 Clinical Practice I. Orientation to the clinical setting with special emphasis on basic procedures and the role of the respiratory therapy department as part of the health care system. Equivalent to one eight-hour session per week for the semester. Prerequisite: concurrent enrollment in 203, 213, 223, 243 and 313.

263-3 Principles of Mechanical Ventilation. Introduces mechanical function of equipment used in continuous and intermittent ventilation of adult, pediatric and neonatal patients. Indication, contraindications, and hazards of continuous ventilation with significance given to ventilatory management and monitoring techniques. Three lecture hours per week. Prerequisite: 203, 213, concurrent enrollment in 273 and respiratory therapy major.

273-1 Mechanical Ventilation Laboratory. A laboratory practical course with emphasis on functional mechanical ventilation characteristics, assembly of patient circuits, ventilator monitoring and weaning techniques. Also included is the analysis of arterial blood gas parameters and assessment of the ventilator patient. \$25 laboratory fee is required. Three hours per week for one credit. Prerequisite: concurrent enrollment in 213 and 263 and respiratory therapy major.

283-3 Survey of Pulmonary Diseases. An introduction to the nature, cause and treatment of pulmonary diseases which involve changes in structure and function. Prerequisite: 243, 313 and Allied Health Careers Specialties 141.

293-2 Clinical Practice II. Supervised clinical experience which emphasizes fundamental respiratory therapy procedures and introduces the student to critical care management. Equivalent to sixteen clinical hours per week. Prerequisite: 203, 213, 243, 313 and 253.

303-1 Clinical Simulation Study. Designed for the advanced respiratory care student or practitioner in preparation for the clinical simulation examination required for the NBRC advanced practitioner credential. Content will review format, matrix and examples of clinical simulations and typical case studies used on the examination. Conducted via independent study with a computer emphasis. One lecture/assessment hour per week. Computer lab as necessary. Prerequisite: consent of instructor.

313-3 Respiratory Pharmacology. This course is devoted to the study of drugs, their nature, properties and effects on the human body. Special emphasis is given to drugs which affect the cardiopulmonary and renal systems. Prerequisite: physics, chemistry, mathematics, Allied Health Careers Specialties 141.

323-3 Respiratory Pathophysiology. A discussion of pulmonary complications with obstructive and restrictive disease components and their relationship with pulmonary function studies and blood gas analysis. Emphasis is given to patients with complications directly or indirectly affecting respiration and clinical applications. Prerequisite: 243, physiology, and respiratory therapy major.

343-2 Neonatal/Pediatric Respiratory Care. Respiratory care of the neonate and pediatric patient is presented with emphasis on: physiology; cardiopulmonary disorders and diseases; assessment, evaluation and monitoring; and respiratory therapy modalities of treatment. Prerequisite: 243.

353-8 Clinical Internship. Integration of clinical practice and knowledge for the advanced student. Students receive clinical experience in neonatal and adult intensive care units with an emphasis in ventilatory management. Students should plan to attend a major medical institution off campus for sixteen weeks in the fall. Prerequisite: 263, 273, 293, 323, 343, 363.

363-3 Cardiopulmonary Evaluation and Monitoring. An intensive study of diagnostic testing and monitoring techniques used in the clinical evaluation of the cardiac and pulmonary systems. Cardiopulmonary assessment is presented using pulmonary function testing, electrocardiograph and noninvasive and invasive cardiopulmonary tests. Prerequisite: 243, 313, 203, 213.

373A-2 Clinical Practice III. Through a systematic review of all didactic material covered in prior respiratory therapy courses, and clinical internship experience with respiratory therapy therapeutic, diagnostic and monitoring procedures, students will demonstrate knowledge and proficiencies to be a practicing respiratory therapy graduate. Prerequisite: concurrent enrollment in 353.

373B-2 Clinical Practice III. Research seminar: a faculty supervised research project identifying rural clinical problems relevant to respiratory therapy is completed by the student. Project requires research instrument development and analysis. Prerequisite: 293 and respiratory therapy major.

Science (College, Courses)

Courses (SCI)

257-2 to 8 Concurrent Work Experience Credit. Practical experience in a laboratory or other work directly related to course work in a College of Science program and to the student's educational objectives may be used as a basis for granting credit in the College of Science. Credit is given when specific program credit cannot be granted and is usable for elective credit only. Credit for ongoing work experience is sought by petition and must be approved by the dean and the executive officer of the student's major program before registration. Mandatory Pass/Fail.

258-2 to 8 Work Experience Credit. Practical experience in a laboratory or other work directly related to course work in a College of Science program and to the student's educational objectives may be used as a basis for granting credit in the College of Science. Credit is given when specific program credit cannot be granted and is usable for elective credit only. Credit for past work experience is sought by petition and must be approved by the dean and the executive officer of the student's major program. No grade for past work experience.

259-2 to 24 Vocational Education Credit. Formal, post-secondary, educational credit earned in a military service or other vocational, technical, or occupational program and directly related to the student's educational objectives may be used as a basis for granting credit in the College of Science. Credit is given when specific program credit cannot be granted and is usable for elective credit only. Credit is sought by petition and must be approved by the dean and the executive officer of the student's major program.

388-0 to 36 Study Abroad. Provides credit toward the undergraduate degree for study at accredited foreign institutions or approved overseas programs. Final determination of credit is made on the student's completion of the work. Zero to eighteen credits per semester, zero to nine for summer session. Prerequisite: one year of residence at Southern Illinois University Carbondale, good academic standing, and prior approval of the course of study by the major department and the College of Science.

Social Studies

(SEE CURRICULUM AND INSTRUCTION)

Social Work (Major, Courses)

The course of study consists of three major components: (1) required University Core curriculum course work; (2) required social work major; (3) general university electives. The University's core curriculum program, required of all students pursuing a bachelor degree, is a carefully balanced series of courses in the sciences, social sciences, humanities, fine arts, English and communication skills, mathematics, health, and integrative studies. The university core curriculum courses in sociology and psychology are particularly relevant to the social work major.

The social work requirements in the curriculum include courses that define the role of the profession as it relates to society, politics, and the economy; that provide the conceptual framework to address problems and changed circumstances for individuals, families, groups, and communities; and that examine the structure, functions, policies, programs, and strategies of the social welfare system. Methods courses cover interviewing and interpersonal helping skills, problem solving, group theory, community organization, community development, and social research. This core of courses is designed to give students a solid foundation in understanding, creating

and applying research that will help the students become effective professionals; and to give the students the potential to add to the body of knowledge that will guide their daily decisions and behavior. The field practicum provides an opportunity to integrate theoretical knowledge and helping skills learned in the classroom with the *real world* settings of Southern Illinois social service agencies. A concurrent weekly seminar supports this integration of theory and practice. The practicum is taken in the second semester of the senior year. Block placements are not offered during the summer.

General university electives may be chosen from any university courses which are relevant to your personal interests, and/or social work major.

Social work majors must maintain a minimum overall grade point average of 2.5 (on a 4.0 scale) and a 2.5 (on a 4.0 scale) in social work courses.

Bachelor of Science Degree, College of Education

University Core Curriculum Requirements	41
Requirements for Major in Social Work	60
Plant Biology 115 or Zoology 115, Sociology 108, Political Science 114, Psychology 102 and Economics 113	(9) + 6
Foundations of Social Work: Social Work 275, 400a, 400b, 411, 421	15
Social Work Practice: Social Work 383, 401, 402, 441, and 442	21
Social Work Policy, Practice, and Issues: A total of 6 hours selected from Social Work 350, 361, 363, 366 or other university electives	6
Social Work 291	3
At least two Liberal Arts electives at the 300- or 400-level selected from: anthropology, economics, history, political science, psychology, sociology	6
An introduction to statistics course	3
Electives	19
Total	120

Social Work Suggested Curricular Guide

FIRST YEAR	FALL	SPRING	SECOND YEAR	FALL	SPRING
SOC 108 ¹	3	-	PLB 115 or ZOOL 115 ¹	3	-
Core Humanities ²	3	3	POLS 114 ¹ , ECON 113 ¹	3	3
ENGL 101, 102	3	3	Core Multicultural	3	-
MATH 113, SPCM 101	3	3	Core Fine Arts,	3	-
Core Health	2	-	Elective	3	10
Core Science	-	3	Core Interdisciplinary	-	3
PSYC 102 ¹	-	3			
Total	14	15	Total	15	16
THIRD YEAR	FALL	SPRING	FOURTH YEAR	FALL	SPRING
SOCW 275	3	-	SOCW 400b	3	-
SOCW 291	3	-	SOCW 402	3	-
SOCW 383	3	-	SOCW 411	3	-
SOCW Elective	3	-	SOCW Elective	3	-
LA Elective	3	-	Elective	3	3
SOCW 400a	-	3	SOCW 441 ⁴	-	9
SOCW 401	-	3	SOCW 442	-	3
SOCW 421	-	3			
Statistics ³	-	3			
LA Elective	-	3			
Total	15	15	Total	15	15

¹ Required for Social Work major.
² The school recommends that electives in the core curriculum include Philosophy 104 or 105.
³ Required to enroll in Social Work 411.
⁴ Students must have a gpa of 2.5 (on a 4.0 scale) in Core Social Work Courses (Social Work 275, 291, 383, 400a,b, 401, 402, 411 and 421) to enroll in Advanced Field Practicum.

Courses (SOCW)

275-3 Social Welfare as a Social Institution. Explores the interdependence of social, cultural, political and economic factors in the history and practice of social welfare with special reference to development of the social work profession. Focus on service integration and coordination in community-based delivery systems in rural areas, especially for poor and oppressed populations. Prerequisite: Political Science 114 or concurrent enrollment.

291-3 Social Services and Minority Groups. Exploration of the needs, experiences and attitudes of minority populations pertaining to delivery of social services in rural settings. Emphasis on relationship of cultural diversity to practice, policy and research content. Prerequisite: Sociology 108 or concurrent enrollment.

295-1 to 6 Field Service Practicum in Southern Illinois. This course is designed for freshman and sophomores who are volunteering service to community, social service, or health agencies in southern Illinois. Credit based upon time spent in direct service. Mandatory Pass/Fail.

350-3 to 6 Seminar in Special Issues for Social Work. (a) Practice. (b) Policy and planning. (c) Public welfare services. Topics will be selected from these three areas. Limited to no more than three credit hours per semester. May be repeated as topic varies up to six semester hours.

361-3 Child and Family Services. Problems of child-parent relationships and difficulties in social functioning of children and adolescents. Adoptions, foster home and institutional placements, protective services. Focus on services in rural areas.

363-3 Social Work with the Aged. Basic concepts of social work methods applied to the older adult group. Characteristics of the aged group, its needs and potentials. Social trends and institutions involved in services to the aged.

366-3 Public Policies and Programs for the Aged. An introduction to public policy, program and planning for the aged. A framework is utilized for analyzing policy issues, programs and research in such areas as income maintenance, long term care, transportation, leisure time, housing and social services in order to aid present and future practitioners who work with the aged.

383-3 Interviewing and Interpersonal Helping Skills. This is an introductory course in interpersonal skills in the social services in a systems context. Intake, interviewing and recording are emphasized. Focus on practice in multi-service settings. Prerequisite: Psychology 102.

396-1 to 3 Readings in Social Work. Varying topics not ordinarily covered in depth in regular courses and of specific interest to advanced students. Prerequisite: consent of instructor.

400A-3 Human Behavior and Social Environment I. The first of two courses that examine the normal and dysfunctional life span development from a systems theory perspective. The first course focuses on the behavior of individuals and families. It also explores the impact of the environment and the implications for generalist practice with rural populations. Not for graduate credit. Prerequisite: Plant Biology 115 or Zoology 115.

400B-3 Human Behavior and Social Environment II. Continuation of 400a. A systems perspective is used to examine the theoretical and practice implications of the life cycle as they relate to the development of groups, organizations and communities in rural settings. The course links content to generalist practice skills taught in 401 and 402. Not for graduate credit. Prerequisite: 400a, 401 and 421.

401-3 Generalist Practice I. The first of two courses which prepares for generalist practice. Focuses on intervention skills with individuals and families at a beginning level of proficiency. Emphasis on assessment and treatment in multi-service agencies in rural settings. Not for graduate credit. Prerequisite: 383.

402-3 Generalist Practice II. Continuation of 401. Generalist practice skills and knowledge with groups, organizations and communities at beginning level of proficiency. Emphasis on assessment and treatment in multi-service agencies in rural settings. Not for graduate credit. Prerequisite: 400A, 401 and 421.

411-3 Methods of Social Research. Social work research in generalist practice. Examines the principles, concepts and methods of scientific investigation in terms of its application to social work research and practices. Provides basic skills for self-assessment research in field practicum in spring semester. Not for graduate credit. Prerequisite: 400a, 401, 421, and an introduction to statistics course.

421-3 Social Welfare Policy. In-depth examination of current social welfare policy and program issues in the context of social welfare history in the United States. Utilizes a systematic analytical framework for critical study of multiple causal factors (socio-economic, cultural, governmental structure). Prerequisite: Economics 113, Social Work 275, 291 and 383.

441-9 Advanced Field Practicum. At least 15 to 20 hours per week of supervised experience in an approved social service agency. Utilizes learning contracts with goals, objectives and evaluation to integrate course content into practice, including practice self-assessment. Not for graduate credit. Field work practice begins only in spring semester. Mandatory Pass/Fail. Prerequisite: senior standing, 275, 291, 383, 400a, 400b, 401, 402, 411, 421; and a 2.5 grade point average in social work. Must be taken concurrently with weekly practicum seminar (Social Work 442).

442-3 Advanced Field Practicum Seminar. The seminar assists the student who is in field practicum to systematically conceptualize and integrate the field experience with generalist systems theory, skills and knowledge. The seminar builds on and reemphasizes content provided in previous social work courses. Seminar discussion focuses on shared field work experiences: practice issues related to social work principles, ethics and professionalism, and intervention strategies. Not for graduate credit. Prerequisite: must be taken concurrently with 441.

446-1 to 4 Selected Topics in Social Work. Seminar on selected problems and issues in the social work practice. Content varies with interests of instructor and students. Prerequisite: junior standing.

478-1 to 6 International Social Work: Generalist Policy and Practice. Provides an international perspective for the study of social work groups, organizations and communities. Focuses on the examination of assessment and problem solving interventions and cross-cultural comparisons of policy and practice in foreign countries.

495-1 to 6 Advanced Field Service Practicum in Southern Illinois. This course is directed at upperclassmen and graduate students volunteering service community, social service, or health agencies in Southern Illinois. Credit based on time spent in direct service. Not for graduate credit.

496-1 to 6 Independent Research in Social Work. Provides opportunity for students to conduct independent research with the guidance of a faculty member. Topics of research are identified by the student and faculty member. Prerequisite: consent of instructor.

497-3 Statistics for Social Workers. Statistical methods as applied to social work, focusing on basic descriptive and inferential statistics and their relationship to social work research. Students are provided with statistical methods and models that are applicable to social work research. Lastly, students are prepared to critically analyze published research and apply statistical principles in their own research. Prerequisite: Social Work major only.

Social Work Faculty

Baker, Connie J., Instructor, M.S.W., Southern Illinois University Carbondale, 1987.

Edwards, Dennis R., Lecturer, M.S.W., University of Illinois at Urbana-Champaign, 1975.

Evens, Wayne C., Assistant Professor, Ph.D., University of Iowa, 1995

Gammon, Anne E., Associate Professor, Ph.D., University of Wisconsin-Madison, 1989.

Kawewe, Saliwe, Associate Professor, Ph.D., St. Louis University, 1985.

McFadden, Judith V., Instructor, M.S.W., University of Illinois at Urbana-Champaign, 1983.

Miah, Mizanur R., Associate Professor, Ph.D., Southern Illinois University, 1985.

Raske, Martha, Assistant Professor, Ph.D., University of Illinois-Chicago, 1986.

Reichert, Elisabeth, Assistant Professor, Ph.D., University Tennessee at Knoxville, 1989.

Tracy, Martin B., Professor and *Director*, Ph.D., University of Illinois at Urbana-Champaign, 1982.

Tracy, Patsy D., Clinical Associate Professor, Ph.D., University of Iowa, 1995.

Sociology (Department, Major, Minor, Courses)

Sociology is the science of society. It explains how human groups, institutions, and social movements shape our lives. Sociology develops students' insights into theoretical and practical aspects of life. Sociology students study such topics as social thought, sex and gender roles, marriage and the family, social problems, criminology, large-scale business and government organizations, international development, and social change.

Training in sociology is basic both to creative living and to such practical tasks as the development and effective working of businesses, families, community service agencies, political movements and parties, churches, social clubs, government, industry, and schools.

Those with degrees in sociology find meaningful and rewarding employment as consultants to business and government, social change agents (e.g., community organizers), politicians, educators, and diplomats. Like other liberal arts students, sociology majors also enter the business world, particularly in the sales or personnel divisions of major corporations.

An undergraduate major in sociology is excellent preparation for those anticipating graduate study in law, social welfare, business administration, journalism, and many of the technical and scientific fields. In addition, many students have enjoyed the benefits of double majors or major-minor combinations between sociology and one of these related fields. Sociology and paralegal studies for legal assistants is an example of double majors involving two programs that are both in the College of Liberal Arts, while sociology and journalism are double majors involving programs in the College of Liberal Arts and the College of Communications and Fine Arts.

The Department of Sociology offers the two following alternative plans of study for completion of its major.

General Sociology Plan. This plan is for students seeking a broad academic background in sociology. It usually is chosen either by those who want a general liberal arts education in the social sciences or those anticipating graduate study in one of the social sciences.

Applied Sociology Plan. This plan combines general study in sociology in individually planned programs built around applied courses, including field work/internship experience. The applied sociology plan is primarily for those who seek careers in governmental, business, or community service occupations for which graduate school training either is unnecessary or taken as an option somewhat later in one's career. Both the general and applied plans provide maximum flexibility in course selection by students, while still ensuring that all majors receive training in the fundamentals of the field. Such flexibility enables students to tailor either their general or applied plan to specific career goals.

Academic Advisement. A student planning to major or minor in sociology should consult the department's director of undergraduate studies as early as possible in order to plan an integrated program. After the petition to major in sociology has been approved, the student will be expected to visit the director each semester until all major requirements have been completed. A record of progress for each student will be on file in the department.

To graduate with a major in sociology the student must meet all the University Core Curriculum requirements of the University and the requirements of the College of Liberal Arts. The major requires thirty-six hours of course work. Fifteen hours are in sociology core requirements: Sociology 108, 301, 308 and 312. An additional four hours of senior year experience also is required: Sociology 497 or 498. The remaining seventeen hours for the major must include at least eight hours at the 400 level and may be elected from regularly scheduled departmental courses. These requirements are summarized below.

Transfer Students. Credits for some sociology courses taken at community colleges are transferable. Students should have their sociology credits evaluated by the department's director of undergraduate studies at the earliest opportunity. At least 20 hours of sociology credit must be earned at Southern Illinois University Carbondale. The eight hours of 400-level courses must be earned at a senior level institution and Sociology 497 or 498 must be taken at Southern Illinois University Carbondale.

Bachelor of Arts Degree, College of Liberal Arts

<i>University Core Curriculum Requirements</i>	41
<i>College of Liberal Arts Academic Requirements (See Chapter 4)</i>	14
<i>Requirements for Major in Sociology</i>	36
1) Sociology Core Requirements: Sociology 108, 301, 308 and 312	
2) Senior Year Work: Sociology 497 (General Sociology Plan) or Sociology 498 (Applied Sociology Plan)	
3) At least eight hours must be earned in sociology 400-level courses	
<i>Electives</i>	29
<i>Total</i>	120

Minor

A minor in sociology consists of a minimum of 16 hours of which three hours must be Sociology 108, four must be Sociology 301 and at least six more hours from 300- or 400-level courses at SIUC.

Honors Program

The department offers an honors program for academically outstanding sociology majors. Qualifications for acceptance into this program are: (1) an overall grade point average of at least 3.00; and (2) completion of 8 hours in sociology courses with a grade point average of at least 3.25 in all sociology courses taken at Southern Illinois University Carbondale, and the completion of no fewer than six, nor more than fourteen, semester hours in research or independent study which are counted toward the major. Successful completion of the department's honors program is noted on the academic record at the time the degree is recorded and on the diploma, i.e., Departmental Honors in Sociology. For details, qualified students interested in this program should consult the department's director of undergraduate studies.

Courses (SOC)

108-3 Introduction to Sociology. (University Core Curriculum) [IAI Course: S7 900] An introduction to the sociological perspective on human behavior, the structure and processes involved in social relationship, social stratification and inequality, social institution, and social change. A survey of major areas of interest in sociology. Required of majors and minors in Sociology.

215-3 Race and Ethnic Relations in the United States. (University Core Curriculum) [IAI Course: S7 903D] Current theory, research and events in race-ethnic relations in the United States, including the intersection of class, gender and sexuality. Topics include the European colonization of North America, dynamics of immigration, identity formation among ethno-racial groups and political economy of racism.

221-3 Women and Men in Contemporary Society. (University Core Curriculum)(Same as Women's Studies 221.) Examines theories of women's and men's roles in society. Surveys contemporary gender inequalities in the U.S. and developing countries. Special attention given to employment, race, sexual assault, feminist movements, alternative family/lifestyles and childrearing.

233-3 Sport and Modern Society. (Same as Physical Education 245.) An overview of the social scientific study of sport is followed by an examination of sport and social institutions (education, politics, economics, etc.); sport and social inequality (racial, ethnic, gender, age, etc.); and sport and social change.

298-1 Multicultural Applied Experience. (Multicultural Applied Experience Course) An applied experience, service-oriented credit in American diversity involving a group different from the student's own. Difference can be manifested by age, gender, ethnicity, nationality, political affiliation, race, or class. Students can sign up for the one-credit experience in the same semester they fulfill the multicultural requirement for the University Core Curriculum or coordinate the credit with a particular core course on American diversity, although neither is required. Students should consult the department for course specifications regarding grading, work requirements and supervision. Graded Pass/Fail only.

301-4 Theory and Society. This course familiarizes students with major domains of sociological analysis and basic methods of sociological inquiry. Emphasis on conceptual structure and diverse theoretical perspectives in contemporary sociology. Required of majors and minors in sociology. Recommended for students with special interest in social science.

302-3 Contemporary Social Problems. Review of the basic sociological perspectives used in the study of social problems; discussion and analyses of selected contemporary social problems; assessment of alternative courses of action for the solution of problems.

303-3 Sociology of Deviant Behavior. An overview of sociological theories and research in the study of social deviance. Examines such deviant behaviors as mental illness, sexual deviation, crime, prostitution, drug abuse, eating disorders, alcoholism, and suicide.

304I-3 Families of the World. (University Core Curriculum) [IAI Course: S7 902] Surveys uniformity and diversity to family life among the world's societies and examines the theories concerning family patterns.

305I-3 History of Crime in England and America. (University Core Curriculum) Application of sociological perspective to the study of English and American crime and criminal justice, 1600-present. Examines effects of culture, social structure and social change on criminal behavior and social control.

306I-3 Popular Culture in Society. (University Core Curriculum) Sociological analysis of the meaning of popular culture, the organization of popular cultural production and the relationship between popular culture and social change.

308-4 Statistics for Social Science. Methods and application of statistics in the social sciences. Measures to describe distribution, measures of relationship, statistical inference.

312-4 Elements of Sociological Research. The student is introduced to a variety of research methods in the social sciences including use of the library, techniques of observation, and elementary steps in quantitative measurements and analysis. Satisfies the CoLA Writing-Across-the Curriculum requirement.

321-3 Society and the Individual. Examines the relative influence of individual characteristics, face-to-face interactions, and larger social structures in shaping human behavior. Emphasis is on socialization through the life cycle and in various sectors of society (family, schools, work settings.) Explores related topics of attitude formation and change, social influence, the self and self esteem, groups processes, and social power.

335-3 Urban Sociology. Development of cities and urban social life; present day ecology of cities: suburbs, ghettos, blight; strategies of urban renewal; urban life styles; violence and acute urban problems; urban housing needs; designing safe neighborhoods; urbanization in Europe and developing countries.

340-3 Family. The family in historic and contemporary society; evolution of the modern family; changes in family functions, structure, roles; and an examination of variation and change in family systems.

351-3 Sociology of Religion. The origin and function of religious ideas and institutions in society, their relationship to social change and stability.

371-3 Population Problems. Characteristics and problems of population growth, composition, distribution, mortality, birth control and fertility, international and internal migration, and government policies.

372-3 Criminology. The nature of crime; criminal statistics; causal factors and theories of criminality; types of criminals.

384-3 Introduction to Corrections. (Same as Administration of Justice 384.) Various treatment methods used throughout the criminal justice system. Explanation and evaluation of various treatment techniques; e.g., behavior modification, transactional analysis and other individual and group therapies.

386-3 Environmental Sociology. Focus on social structural conditions and institutions that have changed the natural environment as a social problem. Responses to these problems will be addressed on the individual, group (race, class and gender) and institutional levels.

396-1 to 6 Readings in Sociology. Instructor and student select reading topics which are not covered in depth in regular course offerings. Prerequisite: consent of department and instructor.

397-3 Special Topics in Sociology. Varying sociological topics selected by the instructor for study in depth and breadth. Topics will be announced in advance of registration for the course. Prerequisite: consent of department and instructor.

406-4 Social Change. Theories and problems of social change; their application, with emphasis on the modern industrial period.

415-3 Logic of the Social Sciences. (See Philosophy 415.)

423-4 Sociology of Gender. (Same as Women's Studies 442.) Examines social science theory and research on gender issues and contemporary roles of men and women. The impact of gender on social life is examined on the micro level, in work and family roles, in social institutions, and at the global, cross-cultural level.

424-4 Social Movements and Collective Behavior. A sociological analysis of the behavior of collectivities in uninstitutionalized settings; crowds, masses, publics, and social movements will be examined with relation to their social and cultural backgrounds, forms of expression and organization, and their functions in society.

426-4 Social Factors in Personality and Adjustment. (Same as Psychology 464.) Review of selected theoretical orientations and research traditions in social psychology. Comparison of different theoretical and methodological approaches — symbolic interaction, role theory, developmental and social psychology, theories of attitude organization and change, studies of belief and value systems, theories of socialization.

435-4 Social Inequality. Discussion of theories and evidence pertaining to the socio-structural causes and consequences of inequality based on social class, prestige, power, gender, wealth and income.

437-4 Sociology of Development. Survey of sociological theories of development including modernization, dependency, and world-system perspectives. Problem areas of development are examined: economic growth, state structures, multinational corporations, labor force, education, migration, population, and women's roles.

438-4 Sociology of Ethnic Relations in World Perspective. Examines theories, concepts and research on the structure of ethnic relations and ethnic problems in contemporary societies in major world regions. Assimilationist, pluralist, secessionist, and militant types of ethnic and racial group relations are covered in selected societies. Designed for students with advanced interest in comparative ethnic relations. Prerequisites: 215 is recommended.

450-4 Social Thought. A survey of Western social thought from the ancient world to the founding of the modern social sciences in the 19th century.

460-4 Sociology of Medicine. Examination of the sociological factors involved in health and illness, the role of medicine in society, the organization of medical care and health institutions in the United States, and the prospects for sociological research in this area.

465-4 Sociology of Aging. The adult life cycle from a sociological perspective, with emphasis on the later stages of adulthood. Special topics on aging include demographic aspects, family interaction, ethnicity, and cross-cultural trends.

471-4 Introduction to Social Demography. Survey of concepts, theories, and techniques of population analysis; contemporary trends and patterns in composition, growth, fertility, mortality, and migration. Emphasis is on relationship between population and social, economic, and political factors.

473-4 Juvenile Delinquency. (Same as Administration of Justice 473.) Nature of sociological theories of delinquency; analytical skills in studying the delinquent offenders; systematic assessment of efforts at prevention, control, and rehabilitation in light of theoretical perspectives. Prerequisite: 6 hours of social/behavioral science recommended.

474-4 Sociology of Education. Methods, principles, and data of sociology applied to the educational situation; relation of education to other institutions and groups.

475-4 Political Sociology. (Same as Political Science 419.) An examination of the nature and function of power in social systems at both the macro- and micro-sociological levels of analysis, the social bases of power and politics; and various formal and informal power structures; the chief focus will be on American society.

476-4 Politics and Religion in Comparative Perspective. Examination of the interaction between politics and religion in the United States, with a comparative look at other nations and global regions. Consideration given to politics and religion as cultural and institutional systems, and to the impact of each upon the other.

484-3 Correctional Institutions. (See Administration of Justice 484).

497-4 Senior Seminar. Contemporary issues in sociology and the analysis of these issues. Prerequisite: senior standing with 20 hours in sociology (including 301), or consent of instructor. Not for graduate credit. Satisfies the CoLA Writing-Across-the-Curriculum requirement.

498-1 to 4 Independent Research. With a faculty member the student arranges a research topic resulting in a paper or report. Prerequisite: senior standing with 20 hours of sociology (including 301), and consent of instructor. Satisfies the CoLA Writing-Across-the-Curriculum requirement.

Sociology Faculty

Alix, Ernest K., Associate Professor, *Emeritus*, Ph.D., Southern Illinois University, 1966.

Best, Joel, Professor and *Chair*, Ph.D., University of California- Berkeley, 1971.

Blinde, Elaine M., Associate Professor, Ph.D., University of Illinois, 1987.

Burger, Thomas, Associate Professor, Ph.D., Duke University, 1972.

Hendrix, Lewellyn, Professor, Ph.D., Princeton University, 1974.

Hope, Keith, Professor, *Emeritus*, Ph.D., Oxford University, 1963.

Matsuo, Hisako, Assistant Professor, Ph.D., University of California at Riverside, 1994.

Nall, Frank C., II, Associate Professor, *Emeritus*, Ph.D., Michigan State University, 1959.

Patterson, Edgar I., Assistant Professor, M.A., University of Kansas, 1961.

Schneider, Mark A., Assistant Professor, Ph.D., Yale University, 1985.

Taub, Diane E., Associate Professor, Ph.D., University of Kentucky, 1986.

Ward, Kathryn B., Professor, Ph.D., University of Iowa, 1982.

Williams, Rhys H., Associate Professor, Ph.D., University of Massachusetts Amherst, 1988.

Special Education (Major, Courses)

A Bachelor of Science degree with major in Special Education entitles the student to apply for the State of Illinois Standard Special Certificate. Students seeking the Standard Special Certificate complete coursework leading to approval in one or more of the three disability areas; learning disabilities, behavior disorders and mental retardation. Students who wish to obtain joint certification in Special Education and Elementary Education must complete a 149 hour program. All programs are fully approved by the Illinois State Teacher Certification Board.

Admission All students who plan to major in Special Education will first be admitted as Pre-Special Education students provided they meet the University's admission policy and have potential to meet Teacher Education Program requirements as stated in the College of Education section. Beginning freshman will be granted Pre-Special Education status. Freshman are advised by a College of Education adviser for the purpose of completing the courses required to become Special Education majors.

Transfer students must meet University admission requirements to be granted Pre-special Education major status for the purpose of advisement toward the Special Education major.

Students who are currently enrolled or previously attended SIUC in a major other than Special Education may request admission to the Special Education program as Pre-Special Education majors for the purpose of advisement.

Transfer and reentering students who have earned more than 30 hours of transfer credit and have a grade point average of 2.2 to 2.5 will have their applications reviewed by the department to determine if they are admissible to the Pre-Special Education major classification.

To be considered a Special Education major, students must meet the following requirements:

1. Meet the criteria for admission into the College of Education Teacher Education Program.
2. Completion of a minimum of 30 semester hours in University Core Curriculum courses with an overall grade point average of 2.5 (4.0 scale). In addition, students must successfully complete the following University Core Curriculum courses: (a)

Geography 103; (b) Psychology 102; (c) Political Science 114 or Economics 113; and (d) English 101 and 102, Speech Communication 101.

3. Submit documentation that the applicant has had at least 100 hours of direct contact and experience with individuals with disabilities. Satisfactory documentation of the experience will include a letter on company, agency or organization letterhead stating the number of hours of direct contact the applicant has been engaged with persons with disabilities. The letter should state the name, address and phone number of an individual who can verify the experience of the applicant.

4. An ACT score of 18 or above.

5. Three letters of recommendation from college, university faculty or other individuals familiar with their performance as a student.

Retention Criteria. There are specific and sequential criteria for a student to be retained as a special education major. Retention as a special education major is based not only on continued satisfactory academic performance, but also on acceptable professional behaviors which the faculty deem essential for competent and effective educators. The retention criteria include:

1. Retention in the Special Education program requires completion of the courses required of their specialization area(s) with a grade of C or better. Courses requiring a C or better include: Special Education 312, 315, 401, 402, 411, 417, 418, 419, 423, 425, 430. Other retention criteria include: (a) attainment of an overall grade point average of 2.5, and (b) a favorable endorsement of the special education faculty.

2. To be eligible for the professional semester the student must have attained a minimum 2.75 gpa in the major with an minimum overall gpa of 2.5.

Bachelor of Science Degree, College of Education

SPECIAL EDUCATION MAJOR – STANDARD SPECIAL CERTIFICATE WITH APPROVAL IN BEHAVIORAL DISORDERS, OR MENTAL RETARDATION, OR LEARNING DISABILITIES

<i>University Core Curriculum Requirements</i>	41
To include ENGL 101, 102; SPCM 101; MATH 314; CHEM 106, GEOL 110 or PHYS 101; PLB 115, 117 or ZOOL 115; FL 101, HIST 101a or 101b, PHIL 104a or 104b; HIST 110; MUS 103; ENGL 121 or 204; FL 313i or HIST 304i; POLS 114; ANTH 202; HIST 202, HIST 210 or SOC 215; HED 101 or PE 101.	
<i>Additional Requirements</i>	19
Mathematics 114; Plant Biology 301i, 303i, Zoology 312i, or one from science courses listed above:	
PSYC 102; PSYC 301; EPSY 412 or PSYC 431; ART 348 or CI 325 or PE 202;	
<i>Requirements for Major in Special Education</i>	65
Professional Education Requirements	32
To include Education 312-2	
See Teacher Education Program (Chapter 4)	
Special Education Requirements	33
Special Education 300, 312, 315, 411, 423, 425	18
Communication Disorders and Sciences 303	3
Certification Area	12
Learning Disabilities/Behavioral Disorders: 410, 417, 419, 430	
Educable Mentally Retarded/Trainable-Severely/Profoundly Handicapped: 407, 417, 418, 430	
<i>Total</i>	121

SPECIAL EDUCATION MAJOR – JOINT CERTIFICATION IN SPECIAL EDUCATION AND
ELEMENTARY EDUCATION SPECIALIZATION

<i>University Core Curriculum Requirements</i>	41
To include ENGL 101, 102; SPCM 101; MATH 314; CHEM 106, GEOL 110 or PHYS 101; PLB 115, 117 or ZOOL 115; One of FL 101, HIST 101a, 101b, PHIL 104a or 104b; HIST 110; MUS 103; ENG 121 or 204; FL 313I or HIST 304I; POLS 114; ANTH 202; HIST 202, HIST 210 or SOC 215; HED 101 or PE 101.	
<i>Additional Requirements to Meet State Certification</i>	33
MATH 114; MUS 101 or 103; PE 101; FL 313i, HIST 304i or 101a	12
AD 348, CI 325 or PE 202	3
Concentration in Psychology	18
To include: Psychology 301, 305, 307, 431	
<i>Requirements for Major in Special Education</i>	80
Professional Education Requirements ¹	32
To include Education 312/400-6 hours	
See Teacher Education Program (Chapter 4)	
Special Education Requirements	33
Special Education 300, 312, 315, 411, 423, 425	18
Communication Disorders 303	3
Certification Area	12
Learning Disabilities/Behavioral Disorders: 410, 417, 419, 430	
Educable Mentally Retarded/Trainable-Severely/Profoundly	
Handicapped: 407, 417, 418, 430	
Elementary Education Requirements	15
Curriculum and Instruction 423, 424, 426, 427, 435	
<i>Total</i>	154

Courses (SPED)

- 300-3 Introduction to Special Education.** An overview of characteristics of all types of exceptional children and youth including physical, mental, emotional and social traits. The course also covers the effects of disabling conditions in learning situations, and an overview of the history of special education including legislation and litigation.
- 312-3 Teaching Reading in the Elementary School.** (Same as Curriculum and Instruction 312) Examination of the reading process with emphasis on the factors and conditions that affect reading. Emphasis on the formulation of a philosophy of reading and it implications in relation to methods, materials, organizational procedures and evaluation techniques. Prerequisite: junior standing and an overall gpa of 2.5.
- 315-3 Teaching Mathematics in the Elementary School.** (Same as Curriculum and Instruction 315.) Objectives of mathematics education, learning theory as it is related to mathematics, major concepts to be taught, modern approaches to instruction with emphasis on the use of concrete learning aids. Four class hours and two laboratory hours per weeks. Prerequisite: Mathematics 114 and 314, or consent of instructor. Junior standing and an over all gpa of 2.5.
- 403-3 Characteristics of Children and Youth Labeled Gifted.** Designed to help teachers in the identification of and programming for children labeled gifted and talented. Prerequisite: 300 or concurrent enrollment or consent of the department chair.
- 404-3 Characteristics of Children and Youth Labeled Learning Disabled.** Behavioral, emotional, physical, and learning characteristics of children and youth, with learning disabilities. Emphasis on receptive and expressive modalities for learning; theories dealing with causes and management. Prerequisite: 300 or concurrent enrollment or consent of department chair.
- 405-3 Introduction to Early Childhood Special Education: Infants, Toddlers, and Preschoolers with Special Needs and Families.** This course presents an overview of Early Childhood Special Education including typical and atypical early development, federal and state legislation, goal setting, IEP and IFSPs, working with families, service delivery, case-management, curriculum methods and procedures for enhancing development in young children with special needs. Prerequisite: 300 or concurrent enrollment or consent of instructor.
- 406-3 Characteristics of Children and Youth with Moderate and Severe Disabilities.** Presents historical, theoretical, and research developments in service delivery for individuals of all ages (0-21) with severe disabilities. Provides the basic developmental, instructional and curricular background essential for prospective educators. Emphasizes a behavioral approach. Equivalent applied experience or 30 hours of observation is required.

407-3 Characteristics of Children and Youth with Mild, Moderate, Severe and Profound Mental Retardation. Presents historical, theoretical and research developments in the field of mental retardation. Provides the basic developmental, identification, assessment, instructional and curricular background for prospective education of individuals with mild, moderate, severe or profound mental retardation. Prerequisite: 300 or concurrent enrollment.

409-1 to 6 Cross-Cultural Studies. Seminar and/or directed independent study concerned with socio-cultural variables affecting the educational needs of children and youth with a disability. Prerequisite: 300 or consent of instructor and department chair.

410-3 Characteristics of Children and Youth Labeled Emotionally and Behaviorally Disordered and Learning Disabled. The course presents the behavioral, emotional, physical and learning characteristics of children and youth labeled emotionally and behaviorally disordered and learning disabled. Screening, identification, placement, instructional practices, classroom management and use of related services for individuals with emotional and behavioral disorders or learning disabilities will be examined. Prerequisite: 300 or concurrent enrollment.

411-3 Assessment in Special Education. Course covers general assessment information, norm reference testing, curriculum based assessment, adaptive behavior scales and issues relating to cultural diversity. Prerequisite: 300, 401 or 402, or concurrent enrollment.

412-3 Introduction to Assessment and Curriculum Methods in Early Childhood Special Education. This course presents an introduction to child and family assessment and the development of child and family goals in Early Childhood Special Education. Topics will include types of assessment commonly used, rationale for assessment, methods of assessment, reporting assessment results, writing child and family goals. A fee for testing materials is required. Prerequisite: 300 or concurrent enrollment or consent of instructor.

417-3 Behavior Management for Children and Youth with Disabilities. The course focuses on the implementation of behavior management strategies and tactics to be used with students with disabilities in a variety of educational environments. Prerequisite: 300, 401 or 402, 411, 423.

418-3 Methods and Materials for Teaching Children and Youth with Mental Retardation. The course covers instructional approaches, strategies and materials for teaching children and youth with mild, moderate and severe mental retardation. Prerequisite: 300, 312, 315, 411, 423.

419-3 Academic Methods and Materials for Teaching Students with Learning Disabilities and Emotionally/Behavioral Disorders. The course covers the academic methods and materials used with learning disabled and behavior disorders/seriously emotionally disturbed children and youth in the schools and community. Prerequisite: 300, 312, 315, 401, 411, 423.

421-3 Methods and Materials for Teaching Children and Youth Labeled Moderately and Severely Handicapped. Emphasizes a behavioral approach (i.e., systematic instruction) in teaching young students with severe disabilities (e.g., moderate MR, severe MR, profound MR, multiple handicapped, autistic). Systematic instruction is discussed in relation to applications across various curriculum domains. Each student must have access to working with students labeled moderately and severely disabled during the semester. All students are to develop and implement an instructional program during the course of the semester. Prerequisite: 300, 406.

423-3 General Procedures in Special Education. Presents key provisions of Public Law 94-142 and subsequent amendments, including Individualized Education Programs (IEPs). Course content also includes principles of applied behavior analysis and effective instruction of students with disabilities. Prerequisite: 300, 401, 402, 411 or concurrent enrollment.

425-3 Home-School Coordination in Special Education. The course covers techniques used in parent interviews, conferences and referrals by school personnel: due process and procedural safe guards for parents and youth with disabilities. Prerequisite: 300, 312, 315, 401 or 402, 411, 423 or concurrent enrollment with 417 or 419.

430-3 Secondary Programming for Students with Disabilities. Deals with modifications of and additions to school programs to ensure that they are appropriate to the needs of the adolescents with disabilities. Content includes coverage of remedial and compensatory program models, transition programming, career and vocational education. Prerequisite: 300, 312, 315, 401 or 402, 411, 423 or concurrent enrollment in 417 or 418 and 419.

431-2 Work-Study Programs for Adolescents Labeled Severely Disabled. Deals with program offerings in public school special education programs designed to prepare adolescents labeled severely disabled for maximum vocational adequacy. Prerequisite: 300 and one of 401, 402, 404 or 406.

490-1 to 4 Readings in Special Education. Study of a highly specific problem area in the education of exceptional children. Open only to selected seniors. Not for graduate credit. Prerequisite: 300 and consent of department chair.

Educational Psychology and Special Education Faculty

Bardo, Harold R., Associate Professor, Ph.D., Southern Illinois University, 1972.

Bates, Paul, Professor, Ph.D., University of Wisconsin, 1978.

Beggs, Donald L., Professor, Emeritus, Ph.D., University of Iowa, 1966.

Bradley, Richard W., Professor, Ph.D., University of Wisconsin, 1968.

Brown, Beverly, Associate Professor, Ph.D., University of Iowa, 1974.

Casey, John P., Professor, Emeritus, Ed.D., Indiana University, 1963.

Cody, John J., Professor, *Emeritus*, Ph.D., University of Wisconsin, 1961.

Cordoni, Barbara, Professor, Ed.D., Duke University, 1976.

Cox, Jane, Assistant Professor, Ph.D., Kent State University, 1997.

Crowner, James, Professor, *Emeritus*, Ph.D., Michigan State University, 1960.

Deichmann, John W., Associate Professor, Ph.D., St. Louis University, 1969.

DeWeese, Harold L., Professor, *Emeritus*, Ed.D., University of Illinois, 1959.

Dillon-Sumner, Ronna, Professor, Ph.D., University of California at Riverside, 1978.

Evans John A., Assistant Professor, Ph.D., University of Illinois, 1996.

Elmore, Patricia B., Professor, Ph.D., Southern Illinois University, 1970.

Ewing, Norma J., Associate Professor, Ph.D., Southern Illinois University, 1974.

Foley, Regina, Associate Professor, Ed.D., Northern Illinois University, 1989.

Hisama, Toshiaki, Associate Professor, *Emeritus*, Ph.D., University of Oregon, 1971.

Juul, Kristen D., Professor, *Emeritus*, Ed.D., Wayne State University, 1953.

Karmos, Joseph, Visiting Professor, Ph.D., Southern Illinois University, 1974.

Kelly, Francis J. Professor, Ph.D., University of Texas, 1963.

Leitner, Dennis, Associate Professor, Ph.D., University of Maryland, 1975.

Lewis, Ernest, Professor, Ph.D., Southern Illinois University, 1971.

Miller, Sidney R., Professor, Ph.D., Pennsylvania State University, 1974.

Morgan, Howard, Professor, *Emeritus*, Ed.D., Wayne State University, 1962.

Mouw, John T., Professor, *Emeritus*, Ed.D., University of South Dakota, 1968.

Mundschenk, Nancy, Assistant Professor, Ph.D., University of Iowa, 1992.

Pohlmann, John T., Professor and *Chair*, Ph.D., Southern Illinois University, 1972.

Prichard, Karen K., Associate Professor, Ph.D., Kent State University, 1981.

Snowman, Jack, Professor, Ph.D., Indiana University, 1975.

Teska, James, Associate Professor, Ph.D., University of Illinois, 1969.

White, Gordon, Assistant Professor, Ph.D., University of Iowa, 1969.

White, Lyle J., Associate Professor, Ph.D., University of Iowa, 1988.

Woehlke, Paula L., Professor, Ph.D., Arizona State University, 1973.

Yates, J. W., Professor, *Emeritus*, Ed.D., University of Missouri, Columbia, 1951.

Speech Communication (Department, Major, Courses)

The Department of Speech Communication offers courses in the history, theory and application of communication. These courses reflect the liberal arts and social science tradition as an approach to theory and application.

The department also sponsors co-curricular activities in debate, forensics, performance studies (oral interpretation), and public relations, all of which are open to non-majors.

English is the language of instruction in the Department of Speech Communication and proficiency in written and oral English is required of all students in Speech Communication. To meet the requirements for a major in the Department of Speech Communication a student must demonstrate the following basic skills: the ability to deliver effective public speeches and oral performances of literature; the ability to write clear, correct English prose; the ability to communicate effectively at the interpersonal level as well as in small and large groups; and the ability to understand and apply theory and research which are relevant to the student's program specialization.

These communication competencies may be demonstrated by completing the major program and any one of the specializations described below and by receiving no lower than a C grade in courses listed in the required core and as required in the student's chosen specialization. Under certain circumstances, a student may elect to demonstrate a competency by passing a proficiency examination administered by the Department of Speech Communication.

Bachelor of Science Degree, College of Liberal Arts

SPEECH COMMUNICATION MAJOR

<i>University Core Curriculum Requirements</i>	41
<i>College of Liberal Arts Academic Requirements (See Chapter 4)</i>	11-17

Includes: one year of foreign language, one science course beyond University Core Curriculum and two writing intensive courses chosen from those listed in the required curriculum specializations below.	
<i>Requirements for Major in Speech Communication</i>	42
Required Core Courses	9
Communication theory: 230	
Communication skills: 3 hours of public communication selected from 221, 325, 326 or 370; and 3 hours of interpersonal communication selected from 261, 262, 371 or 383.	
Required Curriculum Specialization (see below)	33
<i>Interpersonal Communication Specialization</i>	33
For students interested in topics of communication in interpersonal relationships, language in everyday interactions, group communication dynamics, and non-verbal and intercultural aspects of communication; and careers in communication skills training, interviewing, communication research, conflict management, and employee or client relations.	
Required: 261, 262, 361, 383, 442, 461; and 15 hours selected from 280, 340, 341, 362, 371, 382, 401, 440, 441, 443, 444, 446, 452, 460, 462, 465, 480 or 483.	
<i>Performance Studies Specialization</i>	33
For students interested in theatrical and everyday performance and the oral interpretation of literature, and in careers in performance, writing-as-performance, and public presentation from business to the arts.	
Required: 370, 371, 471, 472; 6 hours selected from 474, 475, 476; at least one hour selected from 390 or 490; and 15 hours selected from 221, 310, 325, 326, 341, 361, 383, 401, 411, 421(3), 433, 435 or 461.	
<i>Persuasive Communication Specialization</i>	33
For students interested in public and political discourse, argumentation, rhetoric, social influence and media; careers in law, politics, sales, corporate and public advocacy, and selected areas in business and mass media.	
Required: 221, 325, 326, 358, 411, 421 (3), 442; 12 hours selected from 280, 281, 310, 341, 361, 362, 371, 382, 401, 421(3,3), 440, 441, 443, 446, 451, 452, 465 or 476.	
<i>Organizational Communication Specialization</i>	33
For students interested in a broad spectrum of communication topics in the context of the organization including, but not limited to, compliance-gaining, superior-subordinate interaction, communication audit methods, organizational networks, organizational climate and culture, conflict resolution, impact of new communication technology, and information flow.	
Required: 280, 281, 326, 383, 441, 480, 483; 12 hours selected from 221, 261, 262, 341, 361, 381, 382, 390, 411, 442, 452, 481, 490.	
<i>Public Relations Specialization</i>	33
For students interested in social influence and change through diverse media; and careers in agency, corporate or not-for-profit public relations.	

Required: 280, 281, 326, 381, 382, 481, Journalism 302 and 310, Art and Design 497d or Journalism 315, and 6 hours selected from 390, 490, 493 or 494.

Electives 26

Professional Requirements and Advisement:

- 1. Electives *cannot* be *professional communication* courses; *professional communication* includes journalism, graphics, cinema and photography, organizational communication, and radio and television.
- 2. Students interested in agency or corporate public relations are also advised to select 15 hours of electives from the College of Business and Administration. Recommended courses are Management 304, Marketing 304, 305 and 363.

Total 120

Courses (SPCM)

Courses in speech communication are listed according to numerical order. However, the second digit in the course number indicates its topical focus in the speech communication curriculum, as follows:

- 00-09 Communication Theory and Research Methods
- 10-19 Rhetorical Theory and Criticism
- 20-29 Oral Communication and Public Address
- 30-39 Communication Education
- 40-49 Language and Semiotic Communication; Cultural Studies
- 50-59 Political Communication; Media Studies
- 60-69 Interpersonal and Phenomenological Communication; Philosophy of Communication
- 70-79 Performance Studies: Oral Interpretation
- 80-89 Organizational Communication and Public Relations
- 90-99 Research Reporting: Applied Studies and Practicum

100-3 Speech Communication Workshop. A workshop in debate, oral interpretation, or public speaking for secondary school seniors interested in intensive study in one or more of these areas. Prerequisite: consent of instructor.

101-3 Introduction to Oral Communication: Speech, Self and Society. (University Core Curriculum) [IAI Course: C2 900] This course provides theory and practical application relevant to students' development of basic oral communication competencies appropriate to a variety of contexts as situated in a culturally diverse world.

201-3 Performing Culture. (University Core Curriculum) A critical examination of human communication - from everyday conversation to cultural formation - as performance. Lecture and discussion format with consideration of primary texts drawn from conversational transcripts, multicultural literature and popular culture.

221-3 Advanced Public Speaking. The components of effective speech with actual preparation and presentation of several types of speeches. Prerequisite: 101 or consent of instructor.

230-3 Introduction to Speech Communication Theory. Introduction to speech communication theory. Examination of history and theoretical issues as a basis for understanding applied communication areas.

258-1 to 30 Work Experience. Credit given for work experience by students enrolled in the Department of Speech Communication. Such credit is granted upon approval of the undergraduate adviser.

261-3 Small Group Communication. Introduction to small group communication and the small group process. Special emphasis given to problem-solving discussion groups. Satisfies the College of Liberal Arts Writing-Across-the-Curriculum requirements for speech communication majors.

262-3 Interpersonal Communication. Theoretical approaches and contemporary research on patterns of interpersonal communication in romantic, friendship, family, and work relationships. Emphasis on developing skills for analyzing interpersonal processes through close description and interpretation. Satisfies the College of Liberal Arts Writing-Across-the-Curriculum requirement for speech communication majors. Prerequisite: 101 or consent of instructor.

280-3 Business and Professional Communication. A survey of communication theory pertaining to business and professional settings. Provides practice applicable to interviews, conference briefings, and presentation techniques. Prerequisite: 101.

281-3 Introduction to Public Relations. Philosophies and principles of agency, business, governmental, and nonprofit public relations. Historical perspectives, current and future trends, and career opportunities explored.

301I-3 Communication Across Cultures. (University Core Curriculum) This course provides an introduction to communication between/among people from different cultures, focusing on the application of intercultural communication theory and research. Class assignments and exercises examine everyday encounters with individuals from different races, ethnicity, religions, gender, ages, sexual orientations and physical abilities.

310-3 Speech Composition. Rhetorical techniques of public address. Two major speeches prepared, with every possible refinement. Satisfies the College of Liberal Arts Writing-Across-the-Curriculum requirement for speech communication majors. Prerequisite: 221.

325-3 Argumentation and Debate. Through the study of argument, evidence, reasoning, and oral advocacy this course seeks to ensure competence in the ascertainment of truth by investigation and research and the establishment of truth through proof. The ultimate rationale for the course is the discovery and support of intelligent decisions. Prerequisite: 101, 221, 280, or consent of instructor.

326-3 Persuasion. The means of influencing individuals and groups through communication. Emphasizes the shaping of other's values, beliefs, attitudes and behavior primarily by the spoken word. Provides theoretical information about and practice in persuasive speaking, for sources and targets of persuasion. Satisfies the College of Liberal Arts Writing-Across-the-Curriculum requirement for speech communication majors.

340-3 Introduction to Language Acquisition. Interdisciplinary approaches to the interaction between language acquisition and communication development. Topics include nonverbal communication, phonology, syntax, semantics, and pragmatics. Provides a background for those working with young children.

341-3 Introduction to Intercultural Communication. (Same as Linguistics 341.) Examination of the elements and structure of intercultural and transracial communication in the United States. Designed to analyze and describe the interaction between social perception and expression as manifest in verbal and nonverbal behavior. Emphasis on the functional communication of minority groups. Prerequisite: 101 or 262 or consent of instructor.

358-3 Political Campaigns and Elections. (See Political Science 318.)

361-3 Nonverbal Communication. Nonverbal factors that influence the communicative interaction among persons. Review research findings and conduct projects germane to nonverbal communication. Readings, discussions, and research projects. Prerequisite: 262 or consent of instructor.

362-3 Communication and Social Process. Introduction to the phenomenology of human communication and social process. Analysis and description of interpersonal communication in the development and operation of human communities. Special emphasis is given to the nature of persons, consciousness, and communication exchange in society.

370-3 Oral Interpretation II. Theory and practice in advanced interpretation techniques, with emphasis on the student as performer. Satisfies the College of Liberal Arts Writing-Across-the-Curriculum requirement for speech communication majors. Prerequisite: 201 or consent of the instructor.

371-3 Storytelling and the Oral Tradition. Theory and practice in the art of storytelling with emphasis upon practical application, source materials, and historical and ethnic backgrounds.

381-3 Public Relations in Practice. Application of public theory and principles through training and practice in the development of public relations production skills including message construction and delivery, verbal, nonverbal, and visual production work and special events components. Satisfies the College of Liberal Arts Writing-Across-the-Curriculum requirement for speech communication majors. Prerequisite: 281 with a grade of C or better.

382-3 Research Methods in Public Communication. An introductory survey of methods and techniques of audience analysis and public opinion research. Designed especially for public relations specialization. Instruction in the design of research tools, sample selection, interviewing, and the use of the computer for data analysis.

383-3 Interviewers and Interviewing. Planning, conducting, and analyzing interviews with emphasis on roles of interviewer and respondent in professional and organizational communication settings. Study of factors affecting accuracy, openness, and goal attainment in use of interview methods for evaluation and research. Individual and small group projects with selected aspects of interviewing. Prerequisite: 262 or 280 or consent of instructor.

390-1 to 6 Applied Communication. Supervised individual and group performance in various communication arts. Emphasis on the practical application of verbal skills in the following areas: (a) Communication education, (b) Communication studies, (c) Debate, (d) Interpersonal communication, (e) Organizational communication, (f) Performance studies, (g) Persuasive communication, (h) Public relations. May be repeated for credit up to a maximum of six hours toward degree requirements. Prerequisite: consent of instructor and department adviser.

401-3 Communication Theories and Models. An introduction to theory construction and model utilization in communication research. Critical analysis of existing communication theories in the social sciences as a basis for generating new models. Emphasis on the heuristic nature and function of the language/speech act paradigm in communication studies. Satisfies the College of Liberal Arts Writing-Across-the-Curriculum requirement for speech communication major.

411-3 Rhetorical Criticism. Designed to develop the student's ability to criticize public discourse, including speeches, written works and the mass media. Satisfies the College of Liberal Arts Writing-Across-the-Curriculum requirement for speech communication majors.

421-3 to 9 (3,3,3) Studies in Public Address. Critical studies of speakers and issues relevant to social and political movements dominant in national and international affairs. A lecture, reading and discussion course. Students may repeat enrollment to a total of nine hours.

430-3 Speech in Elementary Schools. Survey of normal speech development with emphasis on the elementary school years. Concept of speech as skill basic to reading, writing, and spelling. Psychological and sociological variables affecting language as it relates to school learning. Speech experiences supportive of the child's linguistic, intellectual, and social development.

432-3 Secondary School Forensic Program. Designed to evaluate and plan the proper role of forensics in the secondary school and to prepare the students for their tasks as teachers and administrators in that program. Students enrolled as majors in speech communication with a specialization in communication education must complete this course before enrolling for student teaching. Not for graduate credit. Prerequisite: 201, 325.

433-3 Children's Literature in Performance. Study of children's fiction and poetry through analysis, creative drama, and performance, including solo and group work.

435-3 to 6 (3,3) Topics in Performance Studies. An exploration of advanced theories and techniques for conducting sessions in performance studies. Topics vary and are announced in advance. Students may repeat enrollment in the course, since the topics change. Lecture, discussion, class projects, school visitations.

440-3 Language Behavior. Study of linguistic approaches to speech communication based on behavioral determinants such as culture, history, speech community, value orientations, social perception and expression, and the nature and function of interpersonal transaction.

441-3 Intercultural Communication. Application of semiotic and cultural theories to language behavior. Emphasis on speech communication as an approach to the study of intercultural communication. Prerequisite: 341 or consent of instructor.

442-3 Psychology of Human Communication. Nature, development, and functions of verbal and nonverbal behavior; application of psychology theories and research to the communication process in individuals and groups. Emphasis on the systemic nature of communicative behavior.

443-3 General Semantics. Formulations from the works of Alfred Korzybski and from neo-Korzybskian interpreters are presented. General semantics is discussed as an interdisciplinary approach to knowledge. Relationships are made to contemporary problems in human affairs.

444-3 Studies in Language Acquisition. Research in and theories of the development of verbal and nonverbal language with attention to the maturational process. Includes investigation of social, phonological, syntactical, and semantic correlates of communication development. Appropriate for advanced students interested in working with or conducting research involving children.

445-3 Conversational Performance. Analysis of performance acts within everyday interaction: stories, jokes, laughter, teasing, etc. Application of theories of play, metacommunication and framing. Re-performance of recorded, transcribed conversations as method of exploring aesthetic dimensions of communication. Prerequisite: 9 hours of speech communication courses or consent of instructor.

446-3 Sociology of Language Discourse and Signs. Introduction to sociological semiotics, especially structuralism and post-structuralism. Reference to French theorists such as Barthes, Baudrillard, Bourdieu, Certeau, Deleuze and Guattari, Greimas, Group Mu, Lacan, Lyotard, and Perelman. Emphasis on the practice of discourse, language, and signs as a model for research in the human science of communicology.

451-3 Political Communication. (Same as Political Science 418.) A critical review of theory and research which relate to the influence of communication variables on political values, attitudes, and behavior. Prerequisite: 358 or consent of instructor.

452-3 Interpersonal Communication and the Mass Media. A review, synthesis, and analysis of communication theory and research which deals with the process, interactive nature of interpersonal, and mass channels of communication. Prerequisite: 401 or consent of instructor.

460-3 Small Group Communication: Theory and Research. A critical examination of small group theory and research in speech communication. Emphasis is given to the development of principles of effective communication and decision-making in the small, task-oriented groups. Prerequisite: 261 or consent of instructor.

461-3 Laboratory in Interpersonal Communication I. Interpersonal communication is studied as human encounter. The philosophy and theoretical bases of existential phenomenological approaches to human communication are discussed. Projects are evolved by small groups that contribute to the understanding of human communication.

462-3 Laboratory in Interpersonal Communications II. Various theories of social and cultural change are explored. The role of interpersonal communication in the development of human consciousness is explicated. Projects are evolved by small groups that examine values and priorities of human nature and cultural nature.

463-3 Interpersonal Conflict. Study of sources, patterns, and outcomes of conflict in interpersonal relationships. Emphasis on interactive, systems-level analysis of naturally-occurring conflict episodes. Practice in managing conflicts, reframing, negotiation, and mediation. Prerequisite: 262 or consent of instructor.

465-3 Philosophy of Language. (See Philosophy 425.)

471-3 Prose Fiction in Performance. Study of prose fiction through analysis and individual performance. Satisfies the College of Liberal Arts Writing-Across-the-Curriculum requirement for speech communication majors. Prerequisite: 370 or consent of instructor.

472-3 Poetry in Performance. The study of poetic form through analysis and performance. Prerequisite: 201, 370 or consent of instructor.

473-3 Narrative, Performance and Identity. An exploration of culture, ritual, narrative, community and personal identity as performance. Readings, field work and assignments focus on performance ethnography, communicative dimensions of performance and performance epistemology.

474-3 Staging Literature. Theory and practice of staging literary texts with emphasis on adaptation and directing. Prerequisite: 370 or 371 or consent of instructor.

475-3 to 6 (3,3) Production Texts and Contexts. Advanced study related to theoretical and practical issues in performance staging with special emphasis on textual production, scripting, social contexts and performance practices. May be repeated for a total of six hours. Prerequisite: 6 hours of performance studies courses or consent of instructor.

476-3 Writing as Performance. An examination of the practical and theoretical links between composition and performance. Lectures, reading and assignments focus on performance as a means and an end to creative writing. Satisfies the College of Liberal Arts Writing-Across-the-Curriculum requirement for speech communication majors.

480-3 Dynamics of Organizational Communication. Introduction to interrelationships of communicative behavioral and attitudes with organizational policies, structures, outcomes. Uses case studies and role-plays to teach principles. Individual research into selected aspects of organizational communication. Prerequisite: 280, 442, or consent of instructor.

481-3 Public Relations Cases and Campaigns. Advanced course in public relations case analysis and campaign planning. Students critique public relations campaigns created by various profit, nonprofit and agency organizations. Students also design public relations campaigns from problem identification through evaluation stages. Satisfies the College of Liberal Arts Writing-Across-the-Curriculum requirement for Speech Communication majors. Prerequisite: 381 and 382 with a grade of C or better.

483-3 Studies in Organizational Communication. Study of communication systems and behaviors within organizations. Consideration of relevance of communication to management operations, employee morale, networks, superior-subordinate relations, production, and organizational climates. Individual research into selected aspects of organizational communication. Prerequisite: 480 or consent of instructor.

490-1 to 6 Communication Practicum. A supervised experience using communication skills. Emphasis on the development of performance skills in the following areas: (a) Communication studies. (b) Performance activity. (c) Interpersonal communication. (d) Debate and forensic activity. (e) Political communication. (f) Organizational communication. (g) Instructional communication. May be repeated for credit. Undergraduates limited to a total of six hours and graduate students to three to be counted toward degree requirements.

491-1 to 3 Independent Study in Communication. Readings, creative projects, or writing projects focusing on a theoretical study of communication. The independent study should normally be completed in one semester under the tutorial supervision of a faculty sponsor. Not for graduate credit. Prerequisite: twelve hours of speech, consent of instructor and departmental adviser.

492-2 to 8 Workshop in Performance Studies. Summer offering concentrating in specialized areas of performance studies. Prerequisite: 201 and 370 or consent of instructor.

493-3 to 9 (3,3,3) Special Topics in Communication. An exploration of selected current topics in communication arts and studies. Topics vary and are announced in advance; both students and faculty suggest ideas. Students may repeat enrollment in the course, as the topic varies.

494-1 to 6 Internship in Public Relations. A supervised experience using public relations skills in a professional or career setting. Maximum of six hours to be counted toward degree requirements. Not for graduate credit. Prerequisite: consent of instructor. Mandatory Pass/Fail.

Speech Communication Faculty

Bardhan, Nilanjana R., Instructor, M.S.J., Ohio University, 1994.

Crow, Bryan, Associate Professor, Ph.D., University of Iowa, 1982.

Daughton, Suzanne, Associate Professor, Ph.D., University of Texas at Austin, 1991.

Ekachai, Daradirek, Associate Professor, Ph.D., Southern Illinois University, 1991.

Gingrich-Philbrook, Craig, Assistant Professor, Ph.D., Southern Illinois University, Carbondale, 1994.

Glenn, Phillip, Associate Professor and *Chair*, Ph.D., University of Texas at Austin, 1987.

Hetherington, Laurel, Assistant Professor, Ph.D., University of Iowa, 1981.

Higgerson, Mary Lou, Professor, Ph.D., University of Kansas, 1974.

Hinchcliff-Pelias, Mary, Associate Professor, Ph.D., Southern Illinois University, 1982.

Kleinau, Marion L., Professor, *Emerita*, Ph.D., University of Wisconsin, 1961.

Kleinau, Marvin D., Associate Professor, *Emeritus*, Ph.D., Southern Illinois University, 1977.

Langsdorf, L., Professor, Ph.D., SUNY at Stony Brook, 1977.

Lanigan, Richard L., Professor, Ph.D., Southern Illinois University, 1969.

McOmber, James, Assistant Professor, Ph.D., University of Iowa, 1991.

Pace, Thomas J., Professor, *Emeritus*, Ph.D., University of Denver, 1957.

Parkinson, Michael G., Associate Professor, A.P.R., Ph.D., University of Oklahoma, 1978.

Pelias, Ronald J., Professor, Ph.D., University of Illinois, 1979.

Pineau, Elyse, Associate Professor, Ph.D., Northwestern University, 1990.

Smith, William D., Associate Professor, *Emeritus*, Ph.D., Southern Illinois University, 1964.

Stucky, Nathan, Associate Professor, Ph.D., University of Texas at Austin, 1988.

Wiley, Raymond D., Assistant Professor, *Emeritus*, M.S., Southern Illinois University, 1965.

Speech Pathology and Audiology

(SEE COMMUNICATION DISORDERS AND SCIENCES.)

Technology (Department, Faculty)

Two undergraduate degree programs are available in technology. One program leads to the Bachelor of Science degree with a major in engineering technology (see Engineering Technology) with specializations in one of two areas: electrical engineering technology or mechanical engineering technology. The other program leads to the Bachelor of Science degree with a major in industrial technology (see Industrial Technology) with specialization in one of two areas: manufacturing technology or mining technology.

Engineering technology courses contain topics related to the design and development of products. Industrial technology courses contain topics related to the manufacture and distribution of products.

The present technological society has increased the demand for new types of personnel known as technologists. A technologist utilizes established methods to achieve improvements in existing designs and systems. Technologists should be knowledgeable in the state of the art of a particular technology, capable of utilizing handbooks and other forms of codified information with skill and discrimination, and sufficiently versed in mathematics and science to recognize sound procedures.

The industrial technology program is flexible enough to provide the means whereby a graduate of a two-year occupational program can obtain a bachelor degree in a minimum length of time. The program also provides credit to individuals for related work experience outside the institution.

The programs are designed to provide the necessary training for entry into employment upon the completion of the baccalaureate degree. Opportunities for advanced study are available in manufacturing systems.

Technology Faculty

Abrate, Serge, Associate Professor, Ph.D., Purdue University, 1983.

Andrews, Paul E., Associate Professor, *Emeritus*, Ph.D., Southern Illinois University, 1980.

Barbay, Joseph E., Jr., Associate Professor, *Emeritus*, Ph.D., University of Missouri, Columbia, 1971.

Besterfield, Dale H., Professor, *Emeritus*, Ph.D., Southern Illinois University, 1971.

Butson, Gary J., Associate Professor and *Chair*, Ph.D., University of Illinois, 1981.

Chang, Feng-Chang (Roger), Associate Professor, Ph.D., Ohio State University, 1985.

Chen, Han Lin, Associate Professor, *Emeritus*, M.S., Southern Illinois University, 1958.

Contor, Keith L., Associate Professor, *Emeritus*, M.S., State College of Washington at Pullman, 1960.

Cross, Bud D., Visiting Assistant Professor, *Emeritus*, M.S., Southern Illinois University, 1965.

Dunning, E. Leon, Professor, *Emeritus*, Ph.D., University of Houston, 1967.

Ferketich, Robert R., Associate Professor, *Emeritus*, Ph.D., Southern Illinois University, 1980.

Johnson, Marvin E., Professor, *Emeritus*, Ed.D., University of Missouri, Columbia, 1959.

King, Frank H., Visiting Assistant Professor, *Emeritus*, Ph.D., Southern Illinois University, 1981.

Lindsey, Jefferson F., III., Professor, D. Engr., Lamar University, 1976.

Marusarz, Ronald K., Assistant Professor, M.S., Southern Illinois University, 1978.

Meyers, Fred E., Associate Professor, *Emeritus*, M.B.A., Capitol University, 1975.

Orr, James P., Associate Professor, Ph.D., Southern Illinois University, 1983.

Ott, Carlyle G., Assistant Professor, *Emeritus*, M.S.Ed., Southern Illinois University, 1951.

Rogers, C. Lee, Associate Professor, *Emeritus*, Ph.D., Southern Illinois University, 1975.

Rong, Yiming (Kevin), Associate Professor, Ph.D., University of Kentucky, 1989.

Spoerre, Julie K., Assistant Professor, Ph.D., Florida State University, 1995.

Szary, Marek, Assistant Professor, Ph.D., Wroclaw (Poland), 1977.

Velasco, Tomas, Assistant Professor, Ph.D., University of Arkansas, 1991.

Weston, Alan J., Associate Professor, Ph.D., Southern Illinois University, 1991.

Theater (Department, Major, Minor, Courses)

The Bachelor of Arts degree in Theater is designed to provide the student with broad-based exposure to human experience and sound foundation in basic skills of theater craft. The undergraduate theater major provides the student with invaluable interpersonal and intrapersonal skills and builds inquiring and open minds—qualities required in most professions the student might wish to pursue after graduation—and further offers essential education and training for continued work in graduate or professional schools.

Courses in acting, voice, movement, directing, theater history, dramatic literature, playwriting, production design, and technical theater, are augmented by the extensive production schedule in two theaters—a proscenium house, the McLeod Theater, seating about 488, and the Christian H. Moe Laboratory Theater, a flexible space seating 100—providing training in all aspects of theater. The production schedule is extensive enough to allow students the opportunity to design sets, lights, and costumes and to write, perform, and direct for productions bridging all dramatic genres, including musical theater.

In addition to the University Core Curriculum requirements, all theater majors must complete a theater core curriculum of 27 semester hours, all of which must be completed with a grade of C or better; a liberal arts component of 20 hours, selected by advisement from courses outside the Department of Theater; and 33 hours of theater electives, to include at least 9 hours at the 400 level. These 33 hours may include a minor of 15 hours in such complementary fields as art, clothing and textiles, computer science, English, foreign languages, history, journalism, music, philosophy, psychology, recreation, sociology, and speech communication.

Theater course credit earned at other institutions of higher learning, not used for University Core Curriculum requirements at the time of transfer, can be applied to the Bachelor of Arts degree program with the approval of the faculty of the Department of Theater.

Bachelor of Arts Degree, College of Liberal Arts

<i>University Core Curriculum Requirements</i>	41
Must include Theater 101.	
<i>Requirements for Major in Theater</i>	80
Theater Core Curriculum	27
Theater 205, 218a, 218b or c, 217, 300, 311a, 354a,b, 402a	
Liberal Arts Component (by advisement)	20
Theater Electives (minimum of 9 semester hours at the 400 level)	33
Students interested in acting might elect: Theater 203, 303a, 303b, 317a, 317b, 350, 402b, 403 or 417	
Students interested in design/technical might elect: Theater 218b or c, 350, 407, 408, 409, 414, 418 or 419	
<i>Total</i>	121

Minor

<i>Requirements for Minor in Theater</i>	16
A minor in theater consists of Theater 311a, with Theater 101 as a pre-requisite, Theater 354a or b, 218a,b or c, 217 and 300-1.	

Courses (THEA)

101-3 Theater Insight. (University Core Curriculum) [IAI Course: F1 907] Through lectures, discussions, projects, text readings and written critiques, students examine how plays are written and produced and how these plays reflect the people and cultures that produce them.

203-3 Introduction to Voice and Movement. Fundamentals of vocal production and movement for the stage: breathing, phonation, kinesthetic awareness, warm-up, use of space and introduction to the International Phonetic Alphabet.

205-2 Stage Make-up. General survey covering design and application of makeup for the stage, including youth, middle and old age, texture, color, special effects, wigs and latex. Supplies at least \$25.

217-3 Acting. Preparing the actor's instrument through basic acting technique; concentration/relaxation exercises; improvisations. The course objective is the discovery and development of the actor's inner resources. Contemporary American plays are studied from the actor's point of view.

218-9 (3,3,3) Beginning Stagecraft. (a) Fundamentals of scenic construction and stage rigging including basic tools, equipment and an introduction to scenic design. (b) Fundamentals of stage lighting including instrument handling, focusing, basic electrical theory and introduction to lighting design. (c) Fundamentals of stage costume construction and introduction to costume design. Each class has a practical laboratory requirement of 45 hours.

260-1 to 15 Internship. Outside departmental internship which is related to the major program but not part of a regular instructional course. Written reports are required of student and outside supervisor. Mandatory Pass/Fail. Prerequisite: theater major; written proposals must be approved by undergraduate advisor and curriculum committee prior to internship.

300-1 to 4 (1 per semester) Theater Practicum. Offers students an opportunity to increase their skills in stagecraft, stage lighting, and costumes by working on department productions. Prerequisite: 218a,b, or c.

303A-3 Movement for the Actor. Intermediate studies in stage movement. Prerequisite: 203 and 217.

303B-3 Voice for the Actor. Intermediate studies in stage voice, IPA, standard speech, text analysis, scansion, cold readings. Prerequisite: 203.

309-3 Drafting for the Theater. Development of the student's skill in scenographic techniques including ground plans, sections, elevations, and detail construction drawings. Prerequisite: 218a or concurrent enrollment.

311A-3 Play Analysis. Development of basic skills in play analysis and application of these skills to a variety of dramatic forms through class discussions and written assignments. Satisfies CoLA Writing-Across-the-Curriculum requirement for Theater majors. Prerequisite: 101 or one course in dramatic literature.

311B-3 to 6 Playwriting Workshop for Undergraduates. Practical experience in producing original plays combined with class discussions and critiques. Actors, designers and technicians attend class sessions, as well as rehearsals and work calls, and have work progressively evaluated. Workshop productions are staged in cooperation with 511. Prerequisite: audition or interview.

317A-3 Intermediate Acting. The study and application of Stanislavskian-based technique to the acting process. Course work includes scene and monologue work. Prerequisite: 217. Non-majors must audition.

317B-3 Intermediate Acting. The study and application of European realism in the development of the actor's process. Prerequisite: 317a.

322-1 to 12 SIUC Summer Theater. Practical experience in summer stock play production. A maximum of twelve credit hours may be accumulated for performance or technical work in SIU Summer Theater only. Open to majors or non-majors. Prerequisite: audition or consent of instructor.

350-3 to 9 (3 per topic) Topical Seminar. An intensive examination and application of selected areas of interest. Topics will vary and may include such areas as stage management, audition and interview, current political theater. Prerequisite: consent of instructor.

354-6 (3,3) History of the Theater. (a) Theater history from primitive times to the 17th century. (b) Theater history from the 17th century to the present.

390-1 to 6 Independent Study. Independent work on selected problems in academic or blend of academic and creative research. A maximum of three hours may be taken for a single project and a cumulative maximum of six hours may count toward the degree. Prerequisite: majors only; written proposals; consent of undergraduate adviser and instructor.

400-1 to 6 (1 to 2 per semester) Production. Practicum for support of major department productions in all areas. Roles in department productions may fulfill requirement.

401-2 Stage Management. Study of the theories and skills required to successfully stage manage a theater production. Prerequisite: 217, 218a and consent of instructor.

402-6 (3,3) Play Directing. (a) Introduction to directing. The history of the director; the evolution of the director into a position of predominance in modern theater hierarchy. The function of the director; and examination of theoretical viewpoint. Textual analysis; establishing the groundwork for the director's approach to production. Prerequisite: junior standing; 217 and 311a; or consent of instructor. (b) The principles of play direction including play selection, analysis and patterning of auditory and visual elements of production. Directing of a one-act play. Prerequisite: consent of instructor.

403A-3 Advanced Movement for the Actor. Advanced studies in stage movement with special attention to period styles. Prerequisite: 303a, 317a, 317b.

403B-3 Advanced Voice for the Actor. Advanced studies in voice with special attention to stage dialects. Prerequisite: 303b, 317a.

404-3 Theater Management. Discussion of legal and financial aspects concerning the professional and community theaters of the United States. Consideration of and practice in managerial activities of an educational theater including administration, purchasing, and accounting practices, direct sales, publicity, promotion and public relations.

406-3 Properties and Crafts for the Stage. Studio work in traditional and non-traditional crafts for theatrical events, including life masks, upholstery, puppetry, stage furniture and special effects. Prerequisite: 218a or consent of instructor.

407-3 Scene Design. Technical and artistic aspects of scene design. Theory and practice. Supplies at least \$25. Prerequisite: 218a, 309, 409, or consent of instructor.

408-3 Model Making. Craft of scenic model making for the stage and other dramatic media. Prerequisite: 218a or consent of instructor.

409A-3 Scene Painting. Studio work in lining, paneling, tromp l'oeil ornament and drapery. Prerequisite: 218a or consent of instructor.

409B-3 Advanced Scene Painting. Advanced studio work in scene painting, including dye painting, transparencies, color mixing and mural work. Prerequisite: 409a or consent of instructor.

410-9 Children's Theater. Theory and practice in performing theater for children. Class activities include lectures on various aspects of production as well as producing a touring children's play for local area schools. Prerequisite: audition or interview.

411A-3 Playwriting — The Short Play. Principles of dramatic structure as they apply to the writing of a short play. Through class discussion, analysis of short plays, and the writing of specific projects and exercises, students will write at least two drafts of a 20-30 minute complete play. Individual plays may be considered for production in the theater's program for new plays. Prerequisite: 311a for major, or consent of instructor.

411B-3 Playwriting — The Full-Length Play. Principles of dramatic literature as they apply to the writing of a full-length (90-120 minute) play. Typical well-made patterns are studied, along with experimental forms and variations. Some discussion of marketing plays is included. Prerequisite: 411a or its equivalent or consent of instructor.

414-3 Costume Design. History of western costume from Greek to Renaissance and its adaptation to stage use. Theory and practical application of design and color. Supplies at least \$25. Prerequisite: 218c or graduate standing.

417-3 to 6 (3,3) Advanced Acting. Utilization of the actor's process in the performance of various theories and styles of acting. May be repeated once for credit. Prerequisite: 317b.

418-3 Introduction to Lighting Design. Investigation of stage lighting design, theory and professional practice. Special attention to color theory and its application to stage lighting. Four hours lecture/laboratory. Prerequisite: 218b, 309, graduate standing, or consent of instructor.

419-3 Advanced Stagecraft. Advanced study of principles and procedures of scenic construction and stage rigging. Includes scene shop organization, materials, and specialized stage equipment; preparation for professional technical direction. Lecture and laboratory to be arranged. Prerequisite: 218a,b, 309, 407; or graduate standing.

420-2 Senior Seminar. Students are provided an opportunity to integrate their previous training in theater and to assess it. Students are exposed to information skills and strategies necessary for survival in the professional world. Mandatory Pass/Fail. Not for graduate credit. Prerequisite: consent of department and concurrent enrollment in 421.

421-1 Senior Project. Preparation of any of the following based on the student's area of interest: a portfolio, script, critical research paper, design, acting recital or direction of a short play. Projects are chosen and prepared under the supervision of a theater faculty member. Mandatory Pass/Fail. Not for graduate credit. Prerequisite: consent of department and concurrent enrollment in 420.

450-3 to 9 Topical Seminar. An intensive examination and application of selected areas of interest. Topics will vary and may include such areas as stage management, audition and interview, current political theater. Prerequisite: consent of instructor.

454-3 American Theater. The development of American theater from colonial times to the present. Includes a study of the American musical theater from preminstrels through contemporary music-drama.

Theater Faculty

Barnes-McLain Noreen, Associate Professor, Ph.D., Tufts University, 1986.

Blackstone, Sarah J., Associate Professor and Chair, Ph.D., Northwestern University, 1983.

Fishel, Rebecca, Assistant Professor, M.F.A., The Ohio University, 1981.

Kincaid, William, Assistant Professor, M.F.A., Southern Illinois University, 1988.

Merrill-Fink, Lori, Associate Professor, M.F.A., University of Arizona, 1988.

Moe, Christian H., Professor, Emeritus, Ph.D., Cornell University, 1958.

Naversen, Ronald, Associate Professor, Ph.D., Southern Illinois University, 1990.

Rush, David, Associate Professor, Ph.D., University of Illinois, 1974.

Stewart-Harrison, Eelin, Professor, Emerita, Ph.D., Louisiana State University, 1968.

Straumanis, Alfreds, Professor, Emeritus, Ph.D., Carnegie Institute of Technology, 1966.

Thudium, Laura, Associate Professor, M.F.A., University of Iowa, 1987.

Varns, Mark, Assistant Professor, M.F.A., University of Missouri-Kansas City, 1990.

Tool and Manufacturing Technology (Courses)

Courses (TT)

101-1 to 6 Basic Tool and Manufacturing Laboratory. The student will perform the basic operations covering the drill press, engine lathe, shaper, and basic bench work operations involving layout and hand tools. The operation of the shaper as a unit production machine is covered. Laboratory five to fifteen hours. Student will pay shop supply charge of \$1.50 per semester hour.

102-1 to 6 Milling Machine and Grinding Laboratory. The student will demonstrate ability to set up and operate the various milling machines and grinding machines common to the tool room and manufacturing operations. Laboratory five to fifteen hours. Student will pay shop supply charge of \$1.50 per semester hour. Prerequisite: 101 or consent of instructor.

125-1 to 3 Introduction to Machine Tools. The student will demonstrate his knowledge of the basic machine tool operations; also, bench and hand tool techniques. Lecture one to three hours.

126-3 Machinability of Metals, Milling, and Abrasive Machining. Students will demonstrate ability to select correct cutting speeds, feeds, and tool geometry for various alloy steels and to understand the relationship of the factors involved. They will be required to understand the various tool room and production milling machine and grinders; their construction, set-up, and operations. Lecture one to three hours. Prerequisite: 125 or consent of instructor.

180-3 Oxy-Acetylene and Elementary Arc Welding Procedures. Includes theory and practice of oxy-acetylene fusion welding, cutting, hard soldering, and introductory shielded metal arc welding with emphasis on flat and horizontal positions. Students will pay materials charge in the amount of \$1.50 per credit hour. Lecture one hour. Laboratory four hours.

181-3 Intermediate Arc Welding and Elementary Inert Gas Welding. Includes theory and practice of intermediate shielded metal arc welding with emphasis on vertical and overhead positions and an introduction to gas tungsten arc, gas metal arc, cored wire welding, and arc/air cutting procedures. Students will pay materials charge in the amount of \$1.50 per credit hour. Lecture one hour. Laboratory four hours.

182-3 Advanced Shielded Metal Arc Welding Procedures. Includes theory and practice of gas, tungsten arc, gas metal arc, cored wire welding. Major emphasis will be placed on the preparation of weld specimens for destructive testing and subsequent analysis of the weldment. Student will pay materials charge in the amount of \$1.50 per credit hour. Lecture one hour. Laboratory four hours. Prerequisite: 181 or consent of instructor.

183-2 Welding Blueprint Reading. Emphasizes the basic fundamentals of drawing interpretation as applied to welding and metal fabrication. The student will be expected to develop a core of blueprint reading skills in addition to a thorough familiarization of welding symbols and their significance. Through individualized instruction, students will progress at their own rate until course requirements have been satisfied as certified by the supervising faculty member.

185-3 Technical Sketching/Blueprint Reading. Upon completion of this course, the student should be able to read and sketch pictorial and multiview drawings which include auxiliary views, sectional views, assemblies, weldments, up-to-date types of precision dimensioning, and many types of fasteners and machine elements. Lecture one hour. Laboratory four hours.

186-3 Computer Aided Design Drafting. Upon completion of this course, the student should be familiar with basic computer operation and keyboard functions; be able to design and develop three dimensional drawings of tools, parts, drill jigs and fixtures. Lecture one hour, laboratory three hours. Prerequisite: 185 or consent of instructor.

199-1 to 10 Individual Study. Provides first-year students with the opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment provides access to the resources of facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Prerequisite: approval of the sponsor and department chair.

208-3 C.N.C. Programming. The student will be introduced to the concepts and principles involved in controlling machine tool motion by computer. Emphasis on application of the microcomputer to numerical control programming and tool path simulation; to demonstrate their ability to program Computer Numerical Control machine tools using manual input. Lecture two hours, laboratory two hours. Prerequisite: 102 and 105b or consent of instructor.

210-1 to 7 Tool and Die and Electrical Discharge Machining. The student will construct blanking die, form die or special tooling. He/she will be introduced to punch press operations, electrical discharge machining, and machining precision parts utilizing various machine tools. Shop supply fee of \$2 per credit hour. Prerequisite: 102 or consent of instructor.

211-1 to 7 Advanced C.N.C. and Tool and Die. The student will demonstrate their ability to set-up and operate Computer Numerical Control machine tools; to use Computer Aided Manufacturing software to establish tool requirements and offsets for the generating of machine tool programming code in order to produce matching components for a progressive, compound, forming, or moulding die; to expand skills in machine tool operations. Laboratory fifteen hours. Student will pay shop charges of \$2 per credit hour. Prerequisite: 102 or consent of instructor.

220-3 Tool and Die, E.D.M. and Inspection Practices. The student will be introduced to basic die design and die components in relationship to blanking and forming dies; to understand the E.D.M. process and to select proper machine settings for a given application; and to understand inspection practices and precision meas-

uring procedures in the manufacturing industry. Lecture three hours. Prerequisite: 126 or consent of instructor.

221-3 C.A.M. and Production Machining. The student will be introduced to the use of Computer Aided Manufacturing software to select tool requirements, simulate tool path, generate machine tool programming code, and subsequently produce finished parts on the Computer Numerical Control lathe and milling machine; to understand the theories and principles involved in production machining in the computer integrated manufacturing environment. Prerequisite: 220 or consent of instructor.

225-2 Principles and Processes in Modern Manufacturing. This is an introduction to the principles involved, and the materials used in modern manufacturing. Emphasis will be on analysis and comparison of several processes relating to the Tool and Manufacturing field. Special attention is given to new technological advances related to the modern machine tool industry, including CAD, CAM, CIM and plastics production.

230-2 to 7 Tool Design I. Tool design practices with emphasis on jigs, fixtures, and gages. Students will develop concepts and prepare working drawings of production tooling with particular emphasis on manufacturing sequence, quality control, and utilization of standard components. Laboratory 3 to 10 hours. Material and supply cost \$.75 per credit hour. Prerequisite: 186 or consent of instructor.

231-2 to 7 Tool Design II. Die design practices with emphasis on blanking, piercing, compound, and forming dies. Students will develop design concepts and prepare working drawings of dies in accordance with die design standards and utilization of standardized die components. Laboratory 3 to 10 hours. Material and supply cost \$.75 per credit hour. Prerequisite: 230 or consent of instructor.

240-3 Fundamentals of Jig, Fixture and Gage Design. A study of the principles involved in developing appropriate tool design concepts. Such factors as processing sequence, clamping techniques, locating devices, and dimensional tolerances will be studied with appropriate considerations given to such factors as tool costs, quantity production, machine selection and operator safety. Lecture three hours. Prerequisite: 186 or consent of instructor.

241-3 Fundamentals of Die Design. A study of the principles involved in the use and design of dies used for the fabrication of sheet metal parts in punch press. Emphasis will be on blanking, piercing, compound, and forming dies. Such factors as drafting room standards, die design standards, punch press capacity, and the use of standardized and interchangeable components will be studied in keeping with desirable levels of manufacturing costs and product quality. Lecture three hours. Prerequisite: 240 or consent of instructor.

275-2 Ferrous Metallurgy. The student will demonstrate understanding in the theory of alloys, characteristics of metals, simple phase diagrams and basic heat treating practices. Lecture two hours.

276-2 Tool Steel Metallurgy. Students will demonstrate ability to apply heat treating procedures with tool steel common to industrial uses. They must also be able to select the proper steel for the design criteria. Lecture one hour. Laboratory two hours. Prerequisite: 275 or consent of instructor.

299-1 to 16 Individual Study. Provides students with opportunity to develop a special program of studies to fit a particular need not met by other offerings. Enrollment provides access to the resources of facilities of the entire institution. Each student will work under the supervision of a sponsoring staff member. Prerequisite: approval of the sponsor and department chair is required.

310-3 to 24 Welder Qualification. Students may choose a concentrated area of training such as pipe welding or structural welding of carbon steel, alloy steel, stainless steel, and aluminum. They may choose any one or all of the following welding processes: shielded metal arc, gas metal arc, gas tungsten arc, and cored wire welding. Upon completion of this course, the student should have developed skills required for pressure and nuclear piping fields, structural steel and bridge welding. Qualification is determined through visual inspection and mechanical testing according to ASME or AWS code requirements. Through individualized instruction, students will progress at their own rate and may complete instruction at any time depending upon individual progress. Qualification papers will be completed by the College of Applied Sciences and Arts and presented to the student or forwarded to an employer. A student will pay \$1.50 per semester hour lab fee. Lecture Lab six hours per three credit hour load. Prerequisite: 182 or graduate of an approved welding program or consent of coordinator.

319-1 to 15 Occupational Internship. Each student will be assigned to a University approved organization engaged in activities related to the student's academic program and career objectives. The student will perform duties and services as assigned by the preceptor and coordinator. Reports and assignments are required to be completed by the student. Hours and credits to be individually arranged. Mandatory Pass/Fail.

320-1 to 12 (1 to 4 per topic) Advanced Tool and Manufacturing Studies. Provides students with an opportunity for advanced studies in their areas of interest in tool and manufacturing technology. Emphasis will be on literature search and advanced technical skills development in the student's areas of specialization. (a) Machine tool, i.e., numerical control programming, advanced diemaking, process planning, machinability studies. (b) Metal fabrication, i.e., design of welded structures, metallurgical aspects of welding, welding quality control procedures. (c) Tool design, i.e., plastic mold design, interchangeable die components, tooling for automatic processes. Students will develop written project objectives with the assistance of a sponsoring faculty member and submit a final paper detailing the semester's activities. Shop and supply charges to be individually determined and specified in project objectives. Credit to be individually arranged based on the nature and complexity of the project. Prerequisite: associate degree in tool and manufacturing technology or consent of instructor.

321-1 to 6 Computer Aided Die Design. This an introduction to the principles involved in advanced die design and production tooling. Emphasis will be on progressive dies, deep draw dies, forging dies, plastic injection molding dies, trim dies, and steel rule dies. Prerequisite: AAS degree in approved technical area or consent of coordinator.

322-1 to 6 Complex Die Making. This course will provide instruction in the high degree of precision skills required for complex die making. Emphasis will be on programming CNC machine tools to produce interchangeable complex die sections. Prerequisite: AAS in approved technical area or consent of coordinator.

323-1 to 6 Computer Integrated Manufacturing. This course will provide instruction with the manufacturing work cell. This will enable the student to design and build appropriate tooling to process raw material through a manufacturing line to produce a completed part fully automated. To accomplish this, the computer, robot, rotary table, conveyor, and CNC mill are programmed to complete the manufacturing process. Prerequisite: AAS in approved technical area or consent of program coordinator.

350-1 to 32 Technical Career Subjects. In-depth competency and skill development and exploration of innovative techniques and procedures used in business, industry, professions and health service occupations offered through various workshops, special short courses and seminars. Hours and credit to be individually arranged. This course may be classified as independent study. Prerequisite: consent of instructor.

University (Courses)

Courses (UNIV)

001-1 to 6 (1 per year) Student Volunteer Community Service. Provides university students an opportunity to participate in community service activity. A maximum of one semester hour of credit may be awarded per year for thirty hours or more of community service. Credit may not be used for graduation or toward semester eligibility for athletics, financial aid, student loan status or University honors. Grade of CR only.

101-3 The New Student Seminar. This course assists new students in making a successful transition into the University. Examines the purpose of higher education and the student's responsibility in the learning process. Provides a thorough introduction to the knowledge and skills necessary for a positive academic and personal experience at SIUC. Only for students in their first semester. Special sections for community college transfer students, academic units and others.

102-1 Strategies for Success Seminar. This course facilitates the reentry into the University of students who have been academically suspended. It provides assistance and support in pursuing their academic degrees, focusing on the acquisition of knowledge, attitudes and skills associated with successful academic performance, career and personal development. Restricted to pre-major students in their first semester following suspension.

388-1 Study Abroad Continuing Enrollment. Continuing enrollment status for undergraduate students participating in an approved study abroad or travel/study program. Requires concurrent enrollment at host institution. Requires approval from the academic unit and study abroad programs. Mandatory Pass/Fail. This course does not count toward the 120 hours needed for graduation.

University Honors Program (Program, Courses)

The University Honors Program is a university-wide undergraduate program designed to reward SIUC's best students for their high academic achievement. The heart of the program is the Honors curriculum: small classes, called seminars, unique in character and specially designed for University Honors students by outstanding SIUC faculty. Each Honors seminar is limited in size to 15 students, and restricted in enrollment to honors students only. The University allows Honors students to substitute Honors seminars for any or all of their 29 semester hours of Core Curriculum requirements in Disciplinary and Integrative Studies (see University Core Curriculum-approved substitutes, Chapter 3).

Membership in the University Honors Program brings additional advantages including extended check-out privileges at Morris Library, early academic advisement and registration, publication in *Papyrus* (the journal of the Honors Program), and others.

Continuing SIUC students and transfer students with at least 12 semester hours of college credit qualify for admission to the University Honors Program on the basis of a cumulative grade-point average of 3.25 or higher. Entering freshmen qualify for admission to the program on the basis of an ACT composite score in the 95th percentile or higher.

The University Honors Program is designed to offer unique educational experiences to participating students. The program includes seminars, special sections of certain classes and independent study. Some scholarships and internships are available to University Honors Students.

Members of the Program are designated as University Honors Students. Retention in the University Honors Program depends upon maintaining a 3.25 cumulative grade point average in all course work and no failing grades in honors courses.

Baccalaureate degrees for University Honors Students are awarded through the regular degree-granting units. Those who successfully complete the University Honors Program graduation option receive recognition on the academic record and on the diploma at the time the degree is recorded.

The Honors graduation option for continuing SIUC students, transfer students without Associate degrees, and entering freshmen is a minimum of 15 semester hours of Honors course work, including a senior Honors thesis or project, approved in advance by the director. The Honors graduation option for transfer students who enter SIUC with an Associate of Arts or an Associate of Science degree (including Capstone students) and two-year degree candidates at SIUC is a minimum of 9 semester hours of Honors course work, including a senior Honors thesis or project, approved in advance by the director. Substitution for this option may be arranged for a student in a major which does not allow curricular flexibility.

University Honors Students may substitute a University Honors seminar for any or all of their University Core Curriculum requirements in Disciplinary Studies (Fine Arts, Human Health, Humanities, Science and Social Science) and Integrative Studies (Multicultural Diversity in the U.S., and Interdisciplinary). No Honors substitutions are allowed for Foundation Skills requirements in composition, mathematics or speech.

University Honors Students may be exempted from all University Core Curriculum requirements if they (1) pass all five CLEP General Examinations before entering the University with these minimum scores: natural sciences, social sciences, and humanities, 520; English composition with essay, 565; and mathematics, 580; and (2) complete the University Honors Program graduation option. No retroactive extension of the CLEP privilege will be allowed.

Fuller information and application forms are available at the University Honors Program office, Faner Hall 3341.

Courses (UHON)

111-3 Freshman Honors Colloquium. Open to freshmen. Prerequisite: consent of director of University Honors Program.

301-3 to 9 (3 per topic) Honors Seminar. Open to undergraduates. Topics vary and will be announced by the University Honors Program each time the course is offered. Prerequisite: consent of the director of University Honors Program.

351F-3 to 9 (3 per topic) Honors Seminar in Fine Arts. Topics vary and will be announced by the University Honors Program each time the course is offered. These seminars may be used to satisfy the University Core Curriculum requirement for disciplinary studies in fine arts. Prerequisite: consent of the director of University Honors Program.

351I-3 to 9 (3 per topic) Honors Seminar in Interdisciplinary Studies. Topics vary and will be announced by the University Honors Program each time the course is offered. These seminars may be used to satisfy the University Core Curriculum requirement for interdisciplinary studies. Prerequisite: consent of the director of University Honors Program.

351L-3 to 9 (3 per topic) Honors Seminar in Human Health. Topics vary and will be announced by the University Honors Program each time the course is offered. These seminars may be used to satisfy the University Core Curriculum requirement for disciplinary studies in human health. Prerequisite: consent of the director of University Honors Program.

351M-3 to 9 (3 per topic) Honors Seminar in Multicultural Diversity in the United States. Topics vary and will be announced by the University Honors Program each time the course is offered. These seminars may be used to satisfy the University Core Curriculum requirement for Integrative Studies in Multicultural Diversity in the United States. Prerequisite: consent of the director of University Honors Program.

351O-3 to 9 (3 per topic) Honors Seminar in Social Science. Topics vary and will be announced by the University Honors Program each time the course is offered. These seminars may be used to satisfy the University Core Curriculum requirement for disciplinary studies in social science. Prerequisite: consent of the director of University Honors Program.

351S-3 to 9 (3 per topic) Honors Seminar in Science. Topics vary and will be announced by the University Honors Program each time the course is offered. These seminars may be used to satisfy the University Core Curriculum requirement for disciplinary studies in science. Prerequisite: consent of the director of University Honors Program.

Curriculum requirement for disciplinary studies in science. Prerequisite: consent of the director of University Honors Program.

351U-3 to 9 (3 per topic) Honors Seminar in Humanities. Topics vary and will be announced by the University Honors Program each time the course is offered. These seminars may be used to satisfy the University Core Curriculum requirement for disciplinary studies in humanities. Prerequisite: consent of the director of University Honors Program.

399-1 to 15 Honors Project. Preparation of honors paper or comparable project under joint supervision of a faculty member in appropriate discipline and director of University Honors Program. Prerequisite: consent of the director of University Honors Program.

499-3 to 9 Undergraduate Honors Thesis. Preparation of Honors thesis or comparable project under supervision of a committee consisting of one or more faculty members in appropriate disciplines and director of University Honors Program. Not for graduate credit. Prerequisite: consent of the director of University Honors Program.

University Studies (Program)

The University Studies program allows students to design interdisciplinary program of study leading to a Bachelor of Science or Bachelor of Arts degree. The Bachelor of Arts degree requires one full year of college-level foreign language; the Bachelor of Science degree does not. Students must also take one science course with lab in addition to the University Core Curriculum science requirement, one course in English composition in addition to the University Core Curriculum composition requirement and one writing intensive course designated by a College of Liberal Arts department as fulfilling the Writing-Across-the-Curriculum requirement.

To be admitted to the University Studies degree program, a student must meet the following criteria.

- 1. Have passed no more than 90 semester hours.
- 2. Have completed at least one full year of college course work (a minimum of 24 semester hours) with a 2.00 grade point average or higher.
- 3. Have exceeded none of the limitations prescribed by the program.

Although University Studies imposes few specific requirements for the degree, other than those which are University-wide baccalaureate requirements, there are limitations on the selection of course work. In addition, students must achieve a minimum grade point average of 2.00 for the 40 semester hours of 300-400 level course work (including 300-level University Core Curriculum courses).

Bachelor of Arts Degree

University Core Curriculum Requirements	41 ¹
Requirements for University Studies	79 ²
Foreign language	8
English Composition	3
Writing Intensive course	3
Science with lab	3
300-400 level coursework	40
Other courses approved by the chief academic advisor in the College of Liberal Arts.	22
Total	120

Bachelor of Science Degree

University Core Curriculum Requirements	41
Requirements for University Studies	79 ¹
English Composition	3
Writing intensive course	3
Science with lab	3
300-400 level coursework	40

Other courses approved by the chief academic advisor in the College of Liberal Arts	30
Total	120

¹Two limitations are placed on course distribution:
a. Students may take no more than 40 semester hours excluding courses used to satisfy University Core Curriculum requirements, in any College (or the School of Social Work), except for the College of Liberal Arts where they may take up to 54 hours (but no more than 27 semester hours in the social sciences, humanities, or fine and performing arts)
b. Students may take no more than 20 semester hours excluding courses used to satisfy University Core Curriculum requirements, in a department or in a School within a College).

Women’s Studies (Minor)

A women’s studies minor is interdisciplinary and designed to enrich and extend a student’s major field of sharing insights gained from the study of women including issues of gender, race and class. Course work can be selected to reflect individual student interests and enhance the major by contributing knowledge, understanding, and sensitivities helpful to students in both the university and work settings.

Women’s Studies is an appropriate minor for many undergraduate majors as well as for students planning graduate or professional studies. For example, people’s orientation toward their work may be affected by an historical understanding of the significant roles women have played in various disciplines, and the ways women have been treated by the courts, the health care professions, the educational system, employment, religion, literature, or the arts.

Because it is interdisciplinary, inclusive of race and class scholarship, the Women’s Studies minor should reflect academic work in the arts and humanities, the natural and social sciences, and race and cross-cultural issues.

Minor

Minors must be approved by the coordinator of Women’s Studies in order to assist students in developing a coherent program that meets their individual interests. The minor requires 18 semester hours of credit, 15 of which must be in Women’s Studies courses, while the remaining 3 hours may be selected from a special interest or related course; for example, Black American Studies. Schedules of classes contain listings of relevant courses. The minor must include 201 and 492. Students are urged to discuss and plan their minors with the coordinator of Women’s Studies or with a faculty member who teaches women’s studies courses.

Courses (WMST)

- 101-3 Classical Civilization. [IAI Course: HF 902] A survey of classical civilization from the Minoans to the Roman Empire with three foci: Homeric, Classical Greece, and the Roman Experience as seen by its artists.
- 201-3 Multicultural Perspectives on Women. (University Core Curriculum) This survey will cover important issues within women’s studies in the United States and will be interdisciplinary and multicultural in nature. The topics will include language, media, education, family, labor, politics, literature and the arts. Issues of race, class, gender and culture will consistently be examined within each topic.
- 221-3 The Sexes in the Modern World: The Social Science Perspective. (University Core Curriculum)(See Sociology 223.)
- 225-3 Women in Literature. (See English 225.) [IAI Course: H3 911D]
- 230-3 Classical Mythology. [IAI Course: H9 901] An inquiry into the nature of myth and its relevance today while studying selected myths principally of the Greeks and Romans.
- 286-3 Marriage and Family Living. (See Curriculum and Instruction 227.) [IAI Course: S7 902]
- 326-3 Women in Communications and Fine Arts.
- 341-3 Psychology of Women. (See Psychology 333.)
- 347-3 Women in American History. (See History 368.)
- 348-3 Women in European Society 1600 to Present. (See History 324.)
- 352-3 Images of Women in French Literature. (See French 300.)
- 427-3 Women in the Visual Arts. (See Art and Design 457.)
- 442-4 Sociology of Gender. (See Sociology 423.)
- 445-3 Women and the American Political Process. (See Political Science 429.)
- 454-3 to 6 Topics in Women’s Literature. (See English 496.)

456-3 Philosophical Perspectives on Women. (See Philosophy 446.)

463-2 Greek Literature in Translation. (See Classics 405.)

468-3 Law and the Social Control of Women in American History. (Same as Administration of Justice 468 and History 468) An examination of the ways in which the law affects the behavior, life chances, identities and experiences of women, from colonial times to the present. Team taught by faculty from History and Administration of Justice.

476-3 Women and the Criminal Justice System. (See Administration of Justice 460.)

488-3 Women in the Home and Labor Market. (Consumer Economics and Family Management 480.)

490-1 to 6 Readings. Supervised readings in selected content areas of women's studies. Prerequisite: consent of instructor and women's studies coordinator.

491-1 to 6 Special Topics. Concentration on a topic of interest not offered through the regular course listings. Prerequisite: consent of instructor and women's studies coordinator.

492-3 to 6 Seminar in Women's Studies. A synthesizing experience for individuals minoring in Women's Studies and graduate students from various departments. Each semester will be a different topic. Activities may include, but are not limited to, a research project or preparation and presentation of a scholarly paper. Prerequisite: consent of women's studies coordinator.

493-2 to 6 Individual Research. Exploration of a research project under the supervision of a faculty member having graduate faculty status. The project must result in a written research report which is filed with the coordinator of women's studies. Prerequisite: consent of instructor and coordinator of women's studies and senior standing.

494-1 to 6 Practicum. Supervised practical experience in situations centering on women's issues, organizations, services, etc. The setting may be in one's own field of study or in the general content areas recognized in the women's studies program. Prerequisite: consent of instructor and coordinator of women's studies.

Workforce Education and Development (Department, Majors [Workforce Education and Development, Clothing and Textiles], Minors, Courses)

The Department of Workforce Education and Development offers two majors: Workforce Education and Development and Clothing and Textiles. Graduates with a degree in Workforce Education and Development are prepared for positions in public vocational/technical education programs and private sector training and development departments. Graduates with a degree in Clothing and Textiles assume technical, supervisory and managerial roles in the fashion industry. A grade of C or better is required in all WED prefix courses. Students who qualify in either of the two majors may elect to apply for Capstone. Criteria for acceptance into the Capstone Option appear in Chapter 3.

WORKFORCE EDUCATION AND DEVELOPMENT MAJOR

Students majoring in workforce education and development are prepared as instructors and instructional support personnel in education, business, industry, labor, and government training organizations. Students may develop competencies in one of five specializations: business education; home economics education; education, training and development; administrative services training; and vocational teacher development.

Bachelor of Science Degree, College of Education

<i>University Core Curriculum Requirements</i>	41
<i>Requirements for Major in Workforce Education and Development</i>	80-94
Core Requirements	9
Nine hours of upper division course work: 466, 462, 463. Students must demonstrate competence in computer information processing and problem solving.	
Specialization Requirements (see below)	71-85
Total	121-135

BUSINESS EDUCATION SPECIALIZATION¹

Accounting 210 or 220a,b,c; 230 or 240	6
Economics 241	3

Finance 270 or 280; 310 or 330	6
Management/Accounting 208 or Advanced Technical Studies 383	3
Management 170 or 304	3
Marketing 305; 350 or 401	6
Office Systems and Specialties 341	3
Workforce Education and Development 258 and/or 395, 302, 310, 408, 412, 414a, 414b, 417	21
Elective teaching endorsements:	
Business computer programming/systems - 6 hours of preap- proved coursework in business computer programming or systems analysis.	
Marketing:	
Marketing 304; 363 or 438	
Cooperative Education Program Coordination:	
Workforce Education and Development 472, 473	
Certification Requirements	(41) + 34
Professional Education Sequence.....	28
(See College of Education in Chapter 4)	
University Core Curriculum Requirements for Teacher Certification	(41)
Humanities and a 3rd science required for Teacher certi- fication	6
Total	85

¹A grade of C or better is required in all business and education courses.

EDUCATION TRAINING AND DEVELOPMENT SPECIALIZATION

Workforce Education and Development 258 and/or 395, 259 or pre- scribed courses to complete technical specialty, 460, 468, 469, 474, 495 or 496	68
Educational Psychology 307 or other approved elective	3
Total	71

HOME ECONOMICS SPECIALIZATION

Workforce Education and Development 320, 321 or 322, 431	7
Related home economics core and restricted electives	45
Certification or Career Electives	19-31
Certification Requirements	(41) + 31
University Core Curriculum Requirements for Teacher Certification:	(41) ¹
ENGL 101 and 102; SPCM 101; MATH 110 or 113; CHEM 106, GEOL 110 or PHYS 101; PLB 115 or 117; AD 101, ENGL 203, HIST 201, MUS 103 or THEA 101; ENGL 121 or 204; FL 101, HIST 101a or PHIL 103a; HIST 110; POLS 114; ANTH 202 or SOC 215; FL 310i or ENGL 308i; HED 101 or PE 101	
Professional Education Requirements	28
Additional course required for Teacher Certification:	
Psychology 102	3
or	
Career electives for educational services/extension	19
Total	71-83

ADMINISTRATIVE SERVICES TRAINING SPECIALIZATION

Accounting 210 or 220	3
Management 170 or 304	3
Finance 270 or 280	3
Information System Technologies 341, 414, 415, 416	12
Select Three: Management 420, 421; Computer Science 201, 202, 312, Information Systems Technologies 209, 211 or 232	9
Workforce Education and Development 258, 302, 308, 408, 414b 417, 418, 495 or 496, 412 or Information System Technologies 412	30
Electives	11
Total	71

VOCATIONAL TEACHER DEVELOPMENT SPECIALIZATION (NON-ENTITLEMENT)

Workforce Education and Development 258, 259, or prescribed courses to complete technical speciality, 460, 466, 468, 474, 495	71
Total	71

¹The hours in parenthesis are already counted in the University Core Curriculum requirements above.
²For secondary health occupations, industrial and other vocational teachers with provisional or temporary provisional certificates. Completion does not constitute entitlement to regular secondary school certification.

Minor

A minor in Workforce Education and Development consists of 20 hours. Minors are planned by the student and adviser within each of the five specializations.

CLOTHING AND TEXTILES MAJOR

Students majoring in clothing and textiles prepare for positions in industrial or commercial businesses in various apparel design or allied design occupations and/or positions in retail companies as buyers, managers, or visual merchandisers. Design and retailing courses available to students include topical areas such as fashion merchandising, buying, textiles, fashion design, pattern making, and apparel production.

Bachelor of Science Degree, College of Education

University Core Curriculum Requirements	41
Requirements for Major in Clothing and Textiles	79
Core requirements	34
Thirty-four hours of upper division work approved by the Department of Workforce Education and Development in the following courses: 306, 334, 336, 337, 344, 345, 346, 347, 442, 445, 459.	
Specialization requirements (see below)	45
Total	120

APPAREL DESIGN SPECIALIZATION

Workforce Education and Development 338a, 338b, 340, 342, 348, 439 or 449, 440, 444, 446, 447, 448	33
Art and Design 100b, 206	6
Professional electives	6
Total	45

RETAILING SPECIALIZATION

Workforce Education and Development 343, 349, 350, 351, 395f and 441	18
Accounting 210 or 220	3

Management 301 or 304 or Psychology 320 or 323	3
Marketing 304, 363, 401 plus 3 additional hours in Marketing	12
Professional electives	9
Total	45

Minor

A minor in clothing and textiles is intended to provide background that will assist students in pursuing their career goals or other interests. A minor in clothing and textiles must have approval of the program coordinator. At least 16 hours of clothing and textiles courses are required as follows:

WED 345	3
WED 336	3
WED 337 or 347	3
Other clothing and textile courses	7
Total	16

Courses (WED)

258-1 to 30 Work Experience. Credit granted for past work experience while employed in business, industry, labor, government service or military organizations. Credit determined by departmental evaluation. Prerequisite: Completion of 12 semester hours of Workforce Education and Development courses with C or better.

259-1 to 60 Occupational Training. Credit for documented occupational study in accredited and selected other programs. Credit determined by departmental evaluation. Prerequisite: Completion of 12 semester hours of Workforce Education and Development courses with C or better.

302-3 Business Communications. (Same as Management 202.) Creating and managing written and oral administrative communications including the analysis, planning and practice of composing different types of internal and external communications in various administrative and business contexts. To successfully complete this course, a communication competency examination (additional fee required) must be passed with at least 70% accuracy prior to University course drop date. Prerequisite: English 101 and 102 or equivalent.

306-3 Introduction to Computers and Information Systems. Overview of computer technology and uses of information systems in education and business. Hands-on applications with business and educational software is stressed. An introduction to programming languages is incorporated using BASIC language. Prerequisite: Office Systems and Specialties 100 or equivalent.

308-3 Applications of Technology for Workforce Education and Training. Applications and analyses of technologies, information systems and computer programs used in business and workforce education and training programs. Demonstration of competency level necessary to train others in secondary/postsecondary education and business training environments on pertinent applications in technological administrative processes, data management and curriculum integration. Prerequisite: Office Systems and Specialties 100 and Information Systems Technologies 336 or equivalent.

310-3 Introduction to Business Education. Teaching business in public and private schools and business and industry training. Curriculum structures, philosophical bases, student characteristics, employment requirements and career opportunities.

320-2 Home Economics as a Profession. Social, psychological and philosophical interpretation of home economics in today's world. Overview of career areas, the homemaker-professional worker and vocational and occupational home economics programs.

321-2 Methods of Teaching for Non-Teaching Majors. Educational principles for use in situations mostly outside of the formal classroom. Selection and organization of materials. Practice in using a variety of techniques and teaching aids.

322-2 Curriculum in Home Economics. Curriculum planning for the total home economics program. Includes management of student organizations and business of a department. Prerequisite: Education 315.

324-4 History, Development and Principles of Extension Work. History and philosophy of cooperative extension. Principles and practice of organizing and administering extension work in home economics. Offered alternate years. Transportation expense for field trips required.

327-3 Home Economics for Men and Women. Survey of areas of home economics; child care; personal, family and community relations; economics and management of personal and family resources; food; nutrition; clothing selection and buying; financial management; consumer education and protection. Emphasis on life skills as reflected in needs of students. Field trip and practicum experiences. Cost: \$3 for supplies.

334-3 Careers in Fashion. Explores the wide range of careers in the fashion industry from textiles, to design, to production and to distribution.

335-2 Basic Textiles. Emphasis on recognition of fabrics and weaves, suitability, care, and maintenance, especially household textiles. Credit cannot be earned for 335 after receiving credit for 345a.

336-3 Basic Principles of Clothing Design. Course content will include aesthetic, cultural, historical, psychological and social aspects of the basic elements and principles of clothing design.

337-3 Fashion Product Analysis. Examines how quality and value of apparel products are visually evaluated by industry and consumers.

338A-3 Clothing Construction – Beginning. Basic clothing construction laboratory. Beginning skills: use of machine, fabric selection and preparation, pattern alteration, garment construction.

338B-3 Clothing Construction – Intermediate. Intermediate skills in fitting, construction, and pattern and fabric usage. Prerequisite: 338a.

340-3 Flat Patternmaking and Drafting. Drafting and fitting basic patterns; making sloper; making styles through flat pattern manipulation and drafting; testing and refining patterns to provide perfect fit. Prerequisite: 338b.

341-3 (1,1,1) Fashion Retailing Seminars. Comparison of practices drawn from student work experiences and information from readings or resource people. Individual and group projects. (a) Retail Theft, (b) Personnel, (c) Fashion Business Systems. Prerequisite: 100 clockhours of approved retail experience.

342-3 Draping. Application of draping principles and techniques to create original garment designs. Prerequisite: 338b.

343-3 Apparel Accessories. Product knowledge, levels of quality, selling points, care of plastics, leather goods, furs, jewelry, cosmetics.

344-3 Fashion Illustration. Introductory illustration course concentrating on developing skills necessary to create fashion illustrations and working drawings. Focus on designing apparel for women, men and children.

345-3 Textiles. Aspects of textiles having an influence on properties and performance of textiles and use products such as apparel and home furnishings. Characteristics of fibers, yarns and fabrics will be discussed and demonstrated in addition to other factors such as manufacturing models and legal constraints on the textile industry.

346-3 Visual Merchandising. Basics of apparel merchandise presentation using fashion shows, window displays, point-of-purchase displays, and mass merchandise presentations emphasizing the elements of design, lighting, and fixture/prop concepts.

347-3 Fashion Motivation. Psychological motivation for wearing clothing; societal functions of clothing, cultural differences in dress. Prerequisite: 336.

348-3 Tailoring. Basic principles of tailoring applied to coat or suit. Prerequisite: 338B.

349-3 Fashion Merchandising. Philosophies, principles and procedures used in fashion retailing establishments as they relate to functions, organization and operations. Topical coverage also includes merchandise and expense planning, inventory management and personnel training. Prerequisite 337.

350-3 Retail Fashion Buying. Responsibilities of a fashion retail buyer. Includes information sources, determination of consumer needs, characteristics of a buyer. Prerequisite: 336, 341-1.

351-3 Fashion Mathematics. Recognition, comprehension and application of fashion mathematical concepts including hands-on computer applications. Prerequisite: 350.

381-4 (2,2) Training Proposal and Report Writing. (a) Theoretical and applied, guided self-study development of skills necessary to developing and documenting occupational study and experiences via resumes and related employment search correspondence. (b) Principles and practices of preparing training proposals and reporting results in corporate or agency settings.

384-3 Adult Education and Training. Planning and preparing adult and workforce programs. Characteristics of clientele, financial support, program development.

386-3 (1,1,1) Post-Secondary Work Education. Teaching in work education programs in post-secondary institutions and agencies. (a) Orientation to and preparation for teaching occupations, (b) Situations and issues which arise in professional education, (c) Interpersonal relations in teaching and other assignments.

395-1 to 24 Field Experience. Supervised work experience in a departmental approved position in business, industry, labor, government or military organizations for students specializing in (a) Administrative services training, (b) Business education, (c) Education, training and development, (d) Home economics, (e) Vocational teacher development or (f) Clothing and textiles. Clock hours/credit arranged by department coordinator.

398-1 to 3 Special Problems. Independent study for qualified students in (a) Administrative services training, (b) Business education, (c) Education, training and development, (d) Home economics, (e) Vocational teacher development or (f) Clothing and textiles. Prerequisite: consent of instructor.

401-3 Authoring Computer Based Instruction in Workforce Education. Develops the basic practical skills and theoretical knowledge required to create computer based instruction for workforce education. Planning and developing CBT lessons are included.

408-3 Integrating and Managing Technology Applications for Workforce Education and Training. Design of workforce training applications integrating professional advanced features of computer software, communication technologies and multimedia features, including management of educational LAN systems. Prerequisite: 306.

409-3 Applications of Integrated Software for Education. Computer applications of integrated software. Spreadsheet, database, wordprocessing and graphic and communications software will be applied to the solution of related problems. Individual student projects will be the focus of the applied nature of the class. Not of graduate credit. Prerequisite: 306 or Office Systems and Specialties 100, or equivalent.

410-3 Issues in Business Training/Education. Study of current issues in business training and education related to history, current status and trends. Organization of instruction, instructional settings, relation to general education, integration and impact of technology, curriculum development/review and evaluation of business training/education impact in the workplace.

412-3 Office Systems Planning and Implementation. (Same as Information Systems Technologies 412) Planning for office systems development through investigation of procedures and systems used in various types of offices. Study of work flow, information processing, employee and group interactions, office information systems from end user perspective. Study of development and implementation processes and strategies detailed through field-tested projects. Students enrolled for graduate credit will develop an end-user office support system as a result of the project. Prerequisite: Information Systems Technologies 341 or equivalent.

414-6 (3,3) Instructional Methods for Business Education. Specific methods, techniques and materials to deliver instruction in business education: (a) accounting, basic business (business and technology concepts, economics, consumer education, product-oriented marketing, small business management), and workplace skills; (b) business computer systems, information processing and keyboarding. This course requires an additional laboratory meeting time. Prerequisite: 310, 462 or Education 315.

417-3 Administrative Office Communications. Application of communication theory, human relations concepts, research methods and information technology to professional application of automated information systems. Projects include oral and written reports, systems-related documents (reports, proposals and procedures) and system documentation for users; emphasis on human factors of communication in a technological environment. Prerequisite: 302 or equivalent.

418-3 Training and Development in Administrative Services. Theories of learning and instructional development to the education/training of employees in office systems/administrative services. Analysis of office and administrative services occupations, instructional design, instructional and presentation strategies, training evaluation, use of instructional technology, and the implementation, evaluation and management of training in an organizational environment. Prerequisite: 412 or equivalent.

428-3 Home Economics for Elementary Teachers. Identification and development of home economics related experiences appropriate for various levels of elementary curriculum. Interpretation of current vocational education legislation and trends affecting elementary programs.

431-3 Demonstration and Laboratory Techniques in Home Economics Education. Practice in planning and carrying out instructional demonstrations in home economics for youth and adults. Use of audiovisual aids and hand-outs. Procedures for laboratory and guided practice to develop psychomotor skills. Attention given to TV presentations. \$5 to \$8 lab fee required. Prerequisite: 320.

439-3 Historic Clothing: Western Cultures. Development of clothing in western civilization to the present time. Consideration of social, economic, aesthetic factors and technical innovations influencing clothing.

440-3 Experimental Custom Apparel Design. Development of apparel to meet aesthetic, structural and functional needs; problem solving for exceptional proportions, rehabilitation, activity, performing arts, new technology, materials and environment. Prerequisite: 340, 342, 344 and 348.

441-3 Personnel Issues in Fashion Retailing. Identification and examination of personnel issues and the job search process in the fashion retail workplace. Not for graduate credit. Prerequisite: 334 and junior standing.

442-3 Textile and Apparel Economics. Emphasizes the issues and importance of the role the United States softgoods industry plays in the global economy.

444-3 Mass-Market Custom Apparel Design. Design of a line to specifications; drafting; toiles, mass-production costs; work flow; use of industrial equipment. Field trips. Prerequisite: 340, 342, 344, 348.

445-4 Textile Product Testing. Hands-on experience with textile testing methods and tools/equipment used by retailers and manufacturers to maintain quality and predict performance. Standards, specifications, test methods, testing terminology, interpretation of test results and recording of test results. Prerequisite: 345.

446-3 Professional Practices in Fashion Design. Business principles of apparel design, including systems, forms and logistics of money and materials. Functions and responsibilities of the fashion designer. Career opportunities in the fashion industry. Prerequisite: 340, 342, 344, and 348.

447-3 Computer Aided Apparel Design. Hands-on experience in computer patternmaking and grading. Prerequisite: 340.

448-3 Custom Tailoring. Individualizing, fitting and contouring of male or female garment for customers from commercial pattern or from original pattern. Organization of work and time. Prerequisite: 348.

449-3 Ethnic Dress. The study of ethnic dress in non-western cultures, with attention to aesthetics, symbolism and uses of ethnic dress. Cultures studied may vary with each offering.

459-3 History of Western Costume, 1860 to Present. Evolution of Western costume from 1860 through the present time. Emphasis on the interrelationship between costume, social, political, economic and technological changes.

460-3 Occupational Analysis and Curriculum Development. System approach to curriculum development. Includes analyzing occupations, specifying objectives and developing curriculum.

462-3 Instructional Methods and Materials. Instructional methods in occupational training program Prerequisite: 460.

463-3 Assessment of Learner Performance. Development and use of evaluation instruments to assess student performance in training classrooms and laboratories. Criterion- and norm-referenced objectives, applications of taxonomies in development of written tests, performance tests and attitude measures. Prerequisite: 460.

464-3 Special Needs Learners and Work Education. Theoretical and applied concepts in teaching special needs learners. Effective aspects of learning are emphasized. Curricula and teaching materials are examined and prepared. Field trips.

466-3 Foundations of Work Education. Examination of the historical, social, economic and psychological foundations of workforce education. Nature and role of education and training in preparing people for the world of work.

468-3 Education/Labor Force Linkages. Attention given to the following areas: overcoming barriers to the linkage process; developing effective lines of communication; resource sharing; conducting joint problem solving with other agencies and individuals within the community; and jointly developing and providing programs and services.

469-3 Training Systems Management. Insight and understanding of administration and management of organizational training. Principles and techniques of managing training organizations. Process of planning, organizing, programming, staffing, budgeting and evaluating a training organization.

472-3 Organizing Cooperative Education. Introduction to cooperative education including history, rational, legislation, goals and objectives. Programming, public relations and evaluation of cooperative education. Introduction of student selection and management of cooperative education programs. Fulfills three semester hours of six required for State of Illinois certification.

473-3 Coordinating Cooperative Education. Competencies required for coordination of cooperative education programs. Selection and maintenance of training stations, student placement, related instruction and program management. Fulfills the remaining three semester hours required for State of Illinois Certification. Prerequisite: 472.

474-3 Individualizing Training. Study and development of theory, characteristics, appropriateness and evaluation techniques of individualized training packages. Review of current state of individualized instruction in work education. Prerequisite: 460.

484-3 Adult Training in Organizations, Business and Industry. A study of adult and workforce education as offered in a variety of educational settings. Major topics include organization, funding, instruction, student characteristics and evaluation. Prerequisite: consent of instructor.

490-1 to 4 Readings. Supervised reading for qualified students. Includes the following areas: (a) Administrative services training, (b) Business education, (c) Education, training and development, (d) Home economics, (e) Vocational teacher development, or (f) Clothing and textiles. Prerequisite: consent of instructor.

491-1 to 5 Advanced Occupational Skills. Modern occupational practice in selected fields for experienced professionals seeking advanced techniques. Prerequisite: consent of instructor.

494-1 to 4 Workshop. Current work education issues for teachers, supervisors and administrators. Emphasis of each workshop will be identified in workshop announcements. (a) Administrative services training, (b) Business education, (c) Education, training and development, (d) Home economics, (e) Vocational teacher development, or (f) Clothing and textiles.

495-2 to 12 Instructional Internship. Internship in approved education and/or training centers. Intern instructor will increasingly assume responsibilities for preparing, presenting and guiding occupational learning in (a) Administrative services training, (b) Business education, (c) Education, training and development, (d) Home economics, (e) Vocational teacher development, or (f) Clothing and textiles. Not for graduate credit. Prerequisite: 462 and 20 semester hours in specialization.

496-2 to 12 Professional Internship. Research, curriculum development or program management at approved education or training sites. The intern will follow the program of the supervising professional in regular and related activities. For students in (a) Administrative services training, (b) Business education, (c) Education, training and development, (d) Home economics, (e) Vocational teacher development, or (f) Clothing and textiles. Not for graduate credit. Prerequisite: twenty semester hours in specialization.

497-1 to 6 Practicum. Applications of work education skills and knowledge. Cooperative arrangements with corporations and professional agencies to study under specialist. Prerequisite: twenty hours in specialty.

498-1 to 5 Special Problems. Investigation of work education problems in (a) Administrative services training, (b) Business education, (c) Education, training and development, (d) Home economics, (e) Vocational teacher development or (f) Clothing textiles. Prerequisite: consent of instructor.

Workforce Education and Development Faculty

Allen, Lorie, Assistant Instructor, M.S., Southern Illinois University, 1986.

Anderson, Marcia, Professor, Ph.D., Southern Illinois University, 1975.

Aydt, Roger, Visiting Assistant Professor, Ph.D., Southern Illinois University, 1987.

Bailey, Larry J., Professor, Ed.D., University of Illinois, 1968.

Baker, Clara Mae, Associate Professor, Ph.D., Ohio State University, 1989.

Bortz, Richard F., Professor, Ph.D., University of Minnesota, 1967.

Bourne, Shirley A., Visiting Assistant Professor, Ph.D., Southern Illinois University, 1983.

Bubnas, Phyllis, Assistant Professor, M.S., Southern Illinois University, 1960.

Buila, Theodore, Associate Professor, Ph.D., Cornell University, 1968.

Carter, Rose Mary, Assistant Professor, Ph.D., Purdue University, 1970.

Davis, Marty S., Visiting Assistant Professor, Ph.D., Southern Illinois University, 1995.

Dirksen, Dennis, Visiting Assistant Professor, Ed.D., Utah State University, 1969.

Gooch, Bill G., Professor, *Emeritus*, Ed.D., University of Tennessee, 1973.

Hagler, Barbara, Lecturer, Ph.D., Arizona State University, 1991.

Hall, M. Eugene, Visiting Assistant Professor, Ph.D., Ohio State University, 1982.

Huck, John F., Associate Professor, Ed.D., University of Illinois, 1973.

Hunter, Wallace D., Visiting Assistant Professor, Ph.D., The Florida State University, 1974.

Kidd, Laura K., Assistant Professor, Ph.D., Iowa State University, 1994.

King, Jacquelyn, Lecturer, Ph.D., Southern Illinois University, 1986.

King, Janice E., Lecturer, M.S., Southern Illinois University, 1978.

L'Angelle, David, Visiting Assistant Professor, Ph.D., Ohio State University, 1983.

Lentz, Elizabeth, Assistant Professor, Ph.D., The University of Missouri at Columbia, 1997.

Page, Virginia, Lecturer, M.S., Southern Illinois University Carbondale, 1965.

Phipps, Jeffrey R., Visiting Assistant Professor, Ed.D., U.S. International University, 1983.

Plessman, Connie K., Visiting Assistant Professor, Ph.D., University of Nebraska, 1985.

Putnam, Alvin R., Professor and *Chair*, Ph.D., Oklahoma State University, 1978.

Reneau, Fred, Professor, Ed.D., Virginia Polytechnic Institute and State University, 1979.

Reynolds, Angus, Visiting Assistant Professor, Ed.D., The George Washington University, 1986.

Rodgers, William L., Visiting Instructor, M.S., Southern Illinois University, 1982.

Shaw, Mari, Visiting Assistant Professor, Ph.D., University of Minnesota, 1984.

Shields, Bill J., Assistant Professor, M.S. ED., Southern Illinois University, 1963.

Sloan, Donald L., Visiting Assistant Professor, Ph.D., University of Illinois at Urbana-Champaign, 1994.

Stadt, Ronald W., Professor, *Emeritus*, Ed.D., University of Illinois, 1962.

Stitt, Thomas R., Professor, Ph.D., Ohio State University, 1967.

Sullivan, James A., Professor, Ed.D., West Virginia University, 1967.

Waugh, Keith, Visiting Assistant Professor, Ph.D., Virginia Polytechnic Institute and State University, 1996.

Washburn, John S., Professor, Ed.D., University of Illinois, 1977.

Workman, Jane, Professor, Ph.D., Purdue University, 1982.

Zoology (Department, Major, Minor, Courses)

A major in zoology is an appropriate beginning for those planning a career that includes teaching and research in zoology, conservation, fisheries management and wildlife management, environmental sciences, or the practice of medicine, dentistry, and veterinary science.

Students majoring in zoology are required to develop an individualized curriculum by consulting with the director of undergraduate studies in zoology and an appropriate faculty member of the department.

In the field of zoology, a student may work toward either a Bachelor of Arts or Bachelor of Science degree. The Bachelor of Arts degree with a major in zoology permits a student to take 21-24 semester hours of courses in other areas of interest. Having obtained a Bachelor of Arts degree, students may continue their education toward a graduate degree in zoology or related field, although it may be necessary to absolve deficiencies in physics, organic chemistry and mathematics.

The Bachelor of Science degree with a major in zoology permits a student to take 8-13 semester hours of courses in other areas of interest. This degree requires additional courses in chemistry and/or physics and quantitative science (mathematics, statistics, or computer programming) and will normally be pursued by students desiring to do graduate work in zoology or other specialized training such as medicine, dentistry, or veterinary science.

The individualized curriculum for the Bachelor of Arts degree in zoology must include: (1) a year of chemistry with laboratory or a year of physics with laboratory (this requirement may be satisfied with Chemistry 200, 201, 210, 211 or Chemistry 200, 201, 340, 341 or Chemistry 140a,b or Physics 203a,b, 253a,b); (2) one course in mathematics beyond Mathematics 108 and 109 or 111 (this requirement may be satisfied with Mathematics 141, 150, 282, 283, Plant Biology 360, Computer Science 200, 202 or 210); (3) Biology 200a,b, 305 and 307; (4) Zoology 220a, 220b, 300 (or Biology 309), Zoology 482 and at least 18 (19 if Biology 309 is used) additional semester hours of electives in zoology. A minimum of 41 semester hours of biology and zoology must be completed for the major, and no more than 11 semester hours of courses (biology or zoology) which are used to satisfy degree requirements of another major may be used to meet the zoology requirements.

Bachelor of Science degree requirements include all requirements for a Bachelor of

Arts degree in zoology, plus two additional courses selected from chemistry with laboratory and/or physics with laboratory, and one additional course in mathematics selected from either calculus, computer programming or statistics.

Bachelor of Arts Degree, College of Science

University Core Curriculum Requirements	41
College of Science Academic Requirements	7-11
Mathematics 108 and 109 or 111 or 141	(3) + 1-3 ¹
Supportive Skills: at least six credit hours chosen from Mathematics 282 or 283 or Plant Biology 360; Computer Science 200, 201 or 202; English 290 or 291 or 491 or Applied Sciences and Arts 102; any two-semester sequence of a foreign language (Chinese, French, German, Japanese, Russian, Spanish) ²	6-8
Requirements for Major in Zoology	46-47
Biology 200a,b	(3) + 3 ¹
Biology 305, 307	6
Zoology 220a,b, and 482	7
Zoology 300 or Biology 309	3-4
Zoology electives from Individualized Curriculum	18-19
Chemistry and/or Physics (one year sequence with laboratory)	(3) + 5 ¹
A course in mathematics (beyond Mathematics 108 and 109 or 111), statistics and/or computer programming in FORTRAN, Pascal or C language ³	3-4
Electives	23-24
Total	120

Bachelor of Science Degree, College of Science

University Core Curriculum Requirements	41
College of Science Academic Requirements	7-11
Mathematics 108 and 109 or 111 or 141	(3) + 1-3 ¹
Supportive Skills: at least six credit hours from Mathematics 282 or 283 or Plant Biology 360; Computer Science 200, 201 or 202; English 290 or 291 or 491 or Applied Sciences and Arts 102; any two-semester sequence of a modern foreign language (Chinese, French German, Japanese, Russian, Spanish) ²	6-8
Requirements for Major in Zoology	57-60
Biology 200a,b	(3) + 3 ¹
Biology 305, 307	6
Zoology 220a,b, and 482	7
Zoology 300 or Biology 309	3-4
Zoology electives from Individualized Curriculum	18-19
Chemistry and/or Physics (two years with laboratory)	(3) + 13-15 ¹
Two courses in mathematics (beyond Mathematics 108 and 109 or 111), statistics and/or computer programming in FORTRAN, Pascal or C language.	6-7
Electives	10-13
Total	120

¹Numbers in parenthesis are hours which may be substituted for the University Core Curriculum requirement
²The foreign language requirement can also be met by one of the following: (a) by earning eight hours of 100-level credit in one language by proficiency examination; or, (b) completing three years of one language in high school with no grade lower than C.
³Courses used to satisfy the supportive skills requirement may not be used to satisfy the mathematics requirement. Only one of Mathematics 282, 283 and Plant Biology 360 may be counted towards the supportive skills or mathematics requirements.

Zoology Suggested Curricular Guide

FIRST YEAR			SECOND YEAR		
	FALL	SPRING		FALL	SPRING
ENGL 101, 102.....	3	3	BIOL 200a,b.....	3	3
Human Health	2	-	CHEM 200, 201.....	4	-
Fine Arts.....	-	3	CHEM 210, 211.....	-	4
MATH 108, 109	3	3	ENGL 291.....	-	3
Social Science.....	3	3	MATH 141.....	4	-
ZOOL 118.....	4	-	Humanities	-	3
ZOOL 220b	-	3	SPCM 101.....	3	-
			Elective	-	2
<i>Total</i>	15	15	<i>Total</i>	14	15
THIRD YEAR			FOURTH YEAR		
	FALL	SPRING		FALL	SPRING
BIOL 307	-	3	BIOL 305.....	3	-
CHEM 340, 341.....	5	-	CS 201	-	3
CHEM 350.....	-	4	Interdisciplinary	3	-
Humanities	3	-	ZOOL 482.....	-	1
Multicultural	-	3	ZOOL 300-level.....	4	-
PLB 360.....	-	3	ZOOL 400-level.....	6	6
ZOOL 220a	3	-	Electives.....	-	5
ZOOL 400-level.....	3	3			
<i>Total</i>	14	16	<i>Total</i>	16	15

Minor

A minor in zoology consists of 16 hours, including 220a,b, and 482. Zoology courses acceptable for majors as well as Biology 305, 306, 307, 308, and 309 may be used to complete the 16-hour minimum requirement; no University Core Curriculum courses can be included. Courses used to satisfy degree requirements for a major or another minor cannot be used for the minor in zoology.

Program

An honors program is available to those juniors and seniors in zoology who maintain a grade point average of 3.25 or better, overall and in the major. To enroll in Zoology 493, the student must complete a departmental form that requires the project title; a description of the proposed project; and the signatures of the student, the faculty adviser, and the chair of the department. The student must complete six hours of 493 with a grade of *B* or better, file with the department a final report on the research, and present the results at a public seminar in order to graduate with departmental honors in zoology. At the time of graduation, an indication of participation in the program is made on the diploma and transcript for students who complete the requirements. Concurrent participation in the University Honors Program is encouraged. Students receiving credit for Zoology 493 may not apply Zoology 393 hours toward the major.

Courses (ZOOL)

Students enrolled in zoology courses may incur field or lab expenses of \$5 to \$25.

115-3 General Biology. (Same as Plant Biology 115.) (University Core Curriculum) [IAI Course: L1 900L] Introduction to fundamental biological concepts for non-life science majors interested in learning about inter-relationships of human, plant and animal communities. Integrated lecture and laboratory cover topics that include structure and function of living systems, reproduction and inheritance, evolution, biological diversity and environmental biology. Laboratory applies scientific methods to the study of living systems.

118-4 Principles of Animal Biology. [IAI Course: L1 902L] An introduction to the basic concepts of animal biology including chemical organization of protoplasm; organization of matter into cells, tissues, organs and organ systems; classification and distribution of animals; ecology; heredity and organic evolution; economic biology and conservation; and animal behavior. A cost of \$5 may be incurred by the student. Three lectures and one two-hour laboratory per week. Prerequisite: high school biology.

202-2 Human Genetics and Human Health. (Same as Microbiology 202.) (University Core Curriculum) Acquaints the student with the role played by genetic information in human development and disease. Discussion topics will include genetics and human diversity, the interaction of genetic information and the environ-

ment, the concepts of genetic disease, the mechanisms and ethics of gene therapy and the possibilities of manipulating the genetic material.

212-2 Birding. Bird watching for pleasure. Consideration of identification, songs and ecology of birds, information on bird organization, equipment, and techniques. Credit may not be used toward a major in zoology. Two lectures per week. Offered Fall term.

214-3 Human Heredity. [IAI Course: L1 906] Principles of heredity as related to humans, with emphasis on the affects of environment on the biological inheritance. Credit may not be used toward a major in zoology.

220-6 (3,3) Diversity of Animal Life. Diversity and its taxonomic treatment of animals, emphasizing structure, function, life cycles, behavior, and phylogeny. (a) Invertebrates, (b) Vertebrates. Two lectures and one two-hour laboratory per week. Need not be taken in a,b sequence. Fall, Spring. Prerequisite: 118 or Biology 200, or strong background in high school biology recommended.

300-4 Vertebrate Embryology. Main features of embryonic and fetal development from fish to humans. Two lectures and two 2-hour laboratories per week. Offered Fall and Spring terms. Prerequisite: 220b.

305-2 Genetics Laboratory. Experimental methods in applying basic principles of genetics. Monogenic and digenic inheritance, sex-linkage, gene interaction, linkage and chromosome mapping, mutation, artificial and natural selection, gene frequencies, and genetic drift. Two 2-hour laboratories per week. Offered Spring term. Prerequisite: Biology 305, or concurrent enrollment.

309-3 Elementary Cell Biology. Introduction to structure, function, and natural history of major cell types. Two lectures and one 2-hour laboratory per week. Offered Spring term. Prerequisite: consent of instructor.

312I-3 Conservation of Natural Resources. (University Core Curriculum) [IAI Course: L1 905] This course adopts an interdisciplinary approach to the study of conservation of natural resources. It integrates environmental science and environmental economics. By examining the costs and benefits of resource consumption, we will attempt to determine the socially optimal level of resource utilization. We will look at ways in which governments attempt to achieve socially optimal resource use, and the effects of these government policies on the environment. Topics considered in the course include: solid waste, energy consumption, air pollution, agriculture and global environment change. Offered fall semester.

316-3 Insect Pests and Their Control. Classical and economic entomology including morphology, physiology, and taxonomy. Life history, damage, and control of principal injurious insects will be discussed. Two lectures and one 2-hour laboratory per week. Credit may not be used toward a major in zoology. Offered Fall term. Prerequisite: 118 or equivalent.

351-4 Ecological Methods. Basic ecological field techniques for analysis of community structure and functional relationships. Two 4-hour laboratories per week. Offered Spring term. Prerequisite: 220a,b and Biology 307.

390-1 to 12 Internship. Supervised off-campus training in a formalized internship program with a zoological institution or agency. May not be used for credit in zoology. Must submit letter from sponsoring agency and prospectus with duties and duration of internship to director of undergraduate studies. No more than three hours per semester may be taken if student is on-campus, or six hours if off-campus. Mandatory Pass/Fail. Prerequisite: major in zoology and prior approval by faculty supervisor.

393-1 to 3 Individual Research. Research on zoological problems. May not be used for minor in zoology. Some cost may be borne by student. Student must identify a zoology faculty supervisor to approve proposed research and evaluate performance. Approved proposal detailing research project and number of credit hours requested must be filed with director of undergraduate studies before the semester in which student is enrolled. Mandatory Pass/Fail. Prerequisite: minimum of 2.50 gpa ($A = 4.00$), senior standing, and prior approval by faculty supervisor.

400-3 Cell Biology of Development. Cellular molecular mechanisms of embryogenesis and differentiation. Examination of the cell as a component of interacting tissues constituting the developing organism. Prerequisite: 300 or Biology 309 or advanced standing in life sciences or consent of instructor.

401-3 Developmental Neurobiology. This course presents a survey of the basic principles that underlie the development of the nervous system, including an examination of the important questions and issues currently being studied by neuroembryologists. Prerequisite: advanced standing in biology/science or consent of instructor.

402-3 Natural History of Invertebrates. Introduction to ecology, intraspecies communication and interspecies relationships of invertebrate animals. Recommended for teacher preparation programs. Two lectures and one 2-hour laboratory per week. Offered Fall term. Prerequisite: 220a.

403-3 Natural History of Vertebrates. Life histories, adaptations, and identification of fish, amphibians, reptiles, birds, and mammals, emphasizing local species. Recommended for teacher preparation programs. One lecture and two 2-hour laboratories per week. Offered Spring semester. Prerequisite: 220b or consent of instructor.

404-3 Evolutionary Biology. Concepts and principles of modern evolutionary theory at a level appropriate for upper-division majors and graduate students in any biological science. Prerequisite: 220a,b or equivalent and Biology 305 or consent of instructor.

405-3 Systematic Zoology. Theory and procedure of classification; population taxonomy; variation and its analysis; rule of zoological nomenclature; taxonomic publication. Three one-hour lecture-discussion meetings per week. Prerequisite: 220a, b or consent of instructor.

406-3 Protozoology. Taxonomy, cytology, reproduction, and physiology of unicellular animals. Laboratory methods for culture and study. One lecture and two 2-hour laboratories per week. Offered Fall term. Prerequisite: 220a.

- 407-4 Parasitology.** Principles, collection, identification, morphology, life histories, and control measures. Two lectures and two 2-hour laboratories per week. Offered Spring term. Prerequisite: 220a.
- 408-3 Herpetology.** Taxonomic groups, identification, morphology, and natural history of amphibians and reptiles. One lecture and two 2-hour laboratories per week. Offered Fall term. Prerequisite: 220b.
- 409-4 Vertebrate Histology.** Microscopic structure of organs and tissues with emphasis on mammalian material. Two lectures and two 2-hour laboratories per week. Offered Spring term. Prerequisite: 10 to 12 semester hours of biological science.
- 413-4 The Invertebrates.** Structure, phylogeny, distinguishing features and habitats of the invertebrates. Two lectures and two two-hour laboratories per week. Offered Spring term. Prerequisite: 220a.
- 414-4 Freshwater Invertebrates.** Taxonomic groups, identification, distribution, and habitats of the North American freshwater invertebrate fauna. Two lectures, two 2-hour laboratories per week. Offered Fall term. Prerequisite: 220a.
- 415-3 Limnology.** Lakes and inland waters; the organisms living in them, and the factors affecting these organisms. Two lectures per week and one 4-hour laboratory alternate weeks. Offered Fall term. Prerequisite: 220a.
- 418-4 Comparative Vertebrate Anatomy.** The comparative structure and evolution of vertebrate organ systems. Two lectures and two 2-hour laboratories per week. Offered spring term. Prerequisite: 220b.
- 421-4 Histological Techniques.** Methods of preparing animal tissue for microscopic study and learn theories of staining and histochemistry. One lecture and two 3-hour laboratories per week. Offered Fall term. Prerequisite: 10 semester hours of biological science.
- 426-3 Comparative Endocrinology.** Comparison of mechanisms in influencing hormone release, hormone biosynthesis, and the effects of hormones on target tissues. Include ablation and histology of glands and chemical and bio-assays with vertebrates and invertebrates. Two lectures and one 2-hour laboratory per week. Offered Spring term.
- 458-3 Issues in Aquatic Ecology.** With its primary focus on freshwater ecosystems, this course will cover important issues in aquatic ecology, including: surface water and groundwater quality, global warming, use of fish hatcheries, exotic species, genetically manipulated organisms, stream habitat degradation, dams, diversions, the Great Lakes and local issues. Prerequisite: Biology 307 or consent of instructor.
- 460-2 Upland Game Birds.** Biological overview and identification of upland and shoreline game birds plus raptors and selectively-managed species. One lecture and one 2-hour laboratory per week; there will be up to two Saturday field trips. Offered Spring term. Prerequisite: 220b or consent of instructor.
- 461-3 Mammalogy.** Taxonomic characteristics, identification, and natural history of mammals. Two one-hour lectures and one 2-hour laboratory per week. Offered Spring semester. Prerequisite: 220b.
- 462-3 Waterfowl.** Identification, life history, ecology, and management. Two lectures and one 2-hour laboratory per week; there will be three or four Saturday field trips. Prerequisite: 220b or consent of instructor.
- 463-3 Game Mammals.** Natural history and management. Two lectures and one 2-hour laboratory per week. Prerequisite: 220b or consent of instructor.
- 464-3 Wildlife Administration and Policy.** Responsibilities of private, state, and federal natural resources management agencies. Legal and political processes in areas of wildlife and natural resources. Three lectures per week. Offered Spring term. Prerequisite: consent of instructor.
- 465-3 Ichthyology.** Taxonomic groups, identification, and natural history of fishes. Two lectures and one 2-hour laboratory per week. Offered Spring term. Prerequisite: 220b.
- 466-3 Fish Management.** Sampling, age and growth, dynamics, habitat improvement, manipulation of fish populations, and management of freshwater and marine fish stock. Two lectures per week and one 4-hour laboratory alternate weeks. Offered Fall term. Prerequisite: 10 hours of biological science or consent of instructor.
- 467-3 Ornithology.** Classification and recognition of birds and the study of their songs, nests, migratory habits, and other behavior. One lecture and one 4-hour laboratory per week. Offered Spring term. Prerequisite: 220b.
- 468-3 Wildlife Biology Principles.** Basic concepts of wildlife ecology and management. Includes lectures on ecological physiology, population dynamics and wildlife management strategies. Prerequisite: Biology 307 and seven other semester hours of biological science.
- 469-3 Wildlife Techniques.** Field-oriented course with instruction in techniques for management of wild species and their habitat. One 1 1/2-hour lecture and one 3-hour laboratory per week, two of which may be field trips on Saturdays. Prerequisite: 10 semester hours in biology and/or zoology or consent of instructor.
- 470-3 Interdisciplinary Approaches to Environmental Issues.** (Same as Geography 470 and Agribusiness Economics 470) Application of concepts from the biological, physical, and social sciences, economics, humanities, and law, are used to understand the interdisciplinary complexities of environmental issues. Students will develop and demonstrate problem-solving skills as part of a team analyzing a regional environmental issues. Team-taught seminar style discussions. Prerequisite: Plant Biology 301i and admission to Environmental Studies minor program.
- 471-4 Entomology.** Structure, classification, and life histories of insects. Two lectures and two 2-hour laboratories per week. Offered Fall term. Prerequisite: 220a.
- 473-4 Aquatic Entomology.** Structure, classification, and biology of aquatic insects. Two lectures and two 2-hour laboratories per week. Offered Fall term. Prerequisite: 220a.
- 475-3 Advanced Cell Biology.** (Same as Plant Biology 475.) Cell structure at molecular and cytological levels. Includes discussions of research methods, and plasma membrane, cell exterior and recognition, the endomembrane system and related organelles, self-replicating organelles, the cytoskeleton, nuclear structure

and function in cell replication, cell differentiation and response, and eukaryotic cell evolution. Prerequisite: Biology 306 or equivalent.

476-2 Advanced Cell Biology Laboratory. (Same as Plant Biology 476.) Laboratory course to accompany 475. Light and electron microscopy, cell culturing, biochemical methods, and experimental protocols are used to study the structure of cell membranes, intracellular organelles, including the Golgi apparatus, ER, mitochondria, plastids, and lysosomes, the cytoskeleton and nucleus. Prerequisite: 475 or concurrent enrollment.

477-3 Fish Culture. Production of game, food and bait fishes. Design of facilities, chemical and biological variables, spawning techniques, diseases and nutrition. Two lectures per week and one four-hour laboratory alternate weeks. Prerequisite: ten hours of biological science or consent of instructor.

478-3 Animal Behavior. Biological basis of the behavior of animals. Two lectures and one 2-hour laboratory per week. Offered Fall semester. Prerequisite: one year of biological science or permission of instructor.

480-3 to 4 Research Methods in Animal Behavior. Skills relevant to conducting research in animal behavior. Guided self-instructional format, with two 2.5-hour periods scheduled weekly, primarily as question/answer and evaluation sessions. Offered spring semester. Prerequisite: 478 and a course in statistics is recommended, or consent of instructor.

482-1 Zoology Seminar for Seniors. Each student reports on a selected topic, using original scientific literature, and the report is discussed by the class. One meeting per week. Offered Fall, Spring, Summer terms. Not for graduate credit. Prerequisite: senior standing or 24 hours of life science completed. Mandatory Pass/Fail.

485-2 to 4 Special Topics in Zoology. Examination of topics of special interest not available in other departmental courses. Offered in response to student need and faculty availability. Prerequisite: consent of instructor.

493-1 to 6 Honors Research. Individual research for honors students in zoology. For undergraduate credit only. Prerequisite: approval of departmental chair and a faculty supervisor.

496-2 to 4 Zoology Field Studies. A trip of four to eight weeks to acquaint students with animals in various environments and with methods of field study, collection, and preservation. Offered Fall, Spring, Summer terms. Prerequisite: consent of department.

497-3 Helminthology. Identification, structure, physiology, and life history of parasitic helminths. Three lectures per week. Prerequisite: 407.

Zoology Faculty

Anthoney, Terence R., Associate Professor, M.D., Ph.D., University of Chicago, 1968, 1975.

Beatty, Joseph A., Associate Professor, Ph.D., Harvard University, 1969.

Blackwelder, Richard E., Professor, *Emeritus*, Ph.D., Stanford University, 1934.

Brandon, Ronald A., Professor, *Emeritus*, Ph.D., University of Illinois, 1962.

Breen, Thomas R., Assistant Professor, Ph.D., University of North Carolina, 1985.

Burr, Brooks M., Professor, Ph.D., University of Illinois, 1977.

Dugger, Bruce D., Assistant Professor, Ph.D., University of Missouri, 1996.

Dyer, William G., Professor, Ph.D., Colorado State University, 1965.

Englert, DuWayne C., Professor, Ph.D., Purdue University, 1964.

Feldhamer, George A., Associate Professor, Oregon State University, 1977.

Garoiian, George, Professor, *Emeritus*, Ph.D., University of Illinois, 1956.

Halbrook, Richard S., Assistant Professor, Ph.D., Virginia Polytechnic Institute and State University, 1990.

Heidinger, Roy C., Professor, Ph.D., Southern Illinois University, 1970.

King, David, Associate Professor, Ph.D., University of California at San Diego, 1975.

Kohler, Christopher C., Professor, Ph.D., Virginia Polytechnic Institute and State University, 1980.

Krajewski, Carey, Associate Professor, Ph.D., University of Wisconsin, 1988.

LeFebvre, Eugene A., Associate Professor, *Emeritus*, Ph.D., University of Minnesota, 1962.

Lewis, William M., Professor, *Emeritus*, Ph.D., Iowa State University, 1949.

Martan, Jan, Professor, *Emeritus*, Ph.D., University of Oregon, 1963.

McPherson, John E., Jr., Professor, Ph.D., Michigan State University, 1968.

Muhlach, William L., Associate Professor and Chair, Ph.D., University of Illinois at Chicago, 1986.

Newman, Jonathan A., Assistant Professor, Ph.D., State University of New York at Albany, 1990.

Nicholson, Matthew C., Assistant Professor, Ph.D., University of Alaska, Fairbanks, 1995.

Sheehan, Robert J., Associate Professor, Ph.D., Southern Illinois University, 1984.

Shepherd, Benjamin A., Professor, Ph.D., Kansas State University, 1970.

Stahl, John B., Associate Professor, Ph.D., Indiana University, 1958.

Stains, Howard J., Professor, *Emeritus*, Ph.D., University of Kansas, 1955.

Waring, George H., Professor, Ph.D., Colorado State University, 1966.

Woolf, Alan, Professor, Ph.D., Cornell University, 1972.



6 / Student Services



Campus Life

STUDENT DEVELOPMENT

The central focus of Student Development is to promote individual student growth and personal achievement through a wide range of programs and services intentionally designed to complement and enhance the student's educational experience. A primary goal is to provide opportunities for student involvement, student development and experiential learning which contribute to student success and satisfaction. Programmatic emphases include:

NEW STUDENT AND FAMILY/PARENT PROGRAMS

Student Orientation Programs

Student Development provides a comprehensive orientation program designed to assist new students in making a smooth transition into the University community and to introduce both new students and their parents and families to the University's vast array of resources, programs and services. Orientation sessions are offered prior to the beginning of each semester and upon special request. Specially trained upper-classmen, known as Student Life Advisers, serve as orientation peer advisers to help the new student learn about the campus and its services. The Student Orientation Committee is available year round to assist students. For additional information, contact Student Development on the third floor of the Student Center, telephone 453-5714.

First Year Experience: A Magic Step Ahead

It's MAGIC. Project MAGIC, Maximize Academic Growth In College, is one of three unique first year experience programs designed as a general advisement program for new students. The purpose of the program is to help new students derive the greatest possible benefit from the people, programs and facilities at the University. This is accomplished by providing interested new students with the opportunity to develop a friendly and helpful relationship with a member of the University faculty or staff, a mentor, who can assist the new student in developing career and academic goals, in learning how to maximize the educational opportunities available at the University and in becoming acclimated to college life. To enroll, contact Student Development on the third floor of the Student Center, telephone 453-5714.

Project STEP. Project STEP, Success Through Experienced Peers, one of three in a series of first year experience programs, is a peer mentoring program for new students. The purpose of the program is to help prepare new students for success at the University by providing them with the opportunity to develop a friendly and informal mentoring relationship with an experienced Southern Illinois University Carbondale student. Trained volunteer peer mentors help new students become acclimated to college life, develop educational and career goals and learn about involvement and leadership opportunities at the University. To participate, contact Student Development on the third floor of the Student Center, telephone 453-5714.

Project AHEAD In cooperation with Academic Affairs, Student Development provides a new student seminar for first semester students at the University. Commonly referred to as Project AHEAD, A Humanistic Educational Approach to Development, the course is designed to help prepare students for success in college and is one of the three programs specifically designed for new students. The course uses an experiential mode of learning activities and group discussions pertaining to the first year experience. Topics for discussion focus on factors and issues associated with successful

adjustment in college and academic achievement. Students learn valuable tips on study skills, communications skills, reading skills, time management techniques and testing skills. Contact Student Development on the third floor of the Student Center, telephone 453-5714, for more information.

SIUC Parents Association

Open to parents and families of students, as well as friends of the University, the SIUC Parents Association provides opportunities for parents and family members to become better informed and actively involved with their students' educational and University experiences. The nominal annual family membership fee entitles Association members to periodic newsletters, special event programs and a number of University and community discounts. The Parents Association Committee is available year round to assist students, their parents and families. Membership applications are available from the SIUC Parents Association in the Student Development on the third floor of the Student Center, telephone 453-5714.

UNIVERSITY STUDENT PROGRAMMING

University Student Programming offers a wide range of programs, activities and services which assists in fostering student learning both in and out of the formal classroom setting; which complements the traditional classroom learning experience, while at the same time supplementing contemporary educational practices; and which provide opportunities for students to directly apply classroom learning to the realities of society and its complex problems. They are designed to promote student involvement, student development and experiential learning through a series of educationally-purposeful activities which assist students in becoming actively engaged in the University and the learning process.

Student Programming

University Student Programming, along with the Student Programming Council/SPC sponsors a host of student activities, campus events and entertainment programs for students and the University community. Programs range from comedy, concerts, lectures, and the performing arts to films, social awareness, travel, and such traditional campus events as Saluki Family Weekend and Homecoming. Students interested in joining the Student Programming Council should contact SPC, located in Student Development on the third floor of the Student Center, telephone 536-3393. To find out the latest event information, call the SPC Hotline 536-4FUN.

REGISTERED STUDENT ORGANIZATIONS PROGRAMS

Over 450 registered student organizations offer opportunities for student involvement, student leadership development and experiential learning. A core of volunteer faculty/staff advisers, along with the professional staff of Student Development, provide direction and consultation to the student organizations in the areas of fiscal and organizational management and University policies and procedures. The program also provides a variety of services including: membership referrals, student organization directories, leadership development workshops, equipment checkout services, copy duplicating service, mailbox service and programming resource library. Among the registered organizations are student governmental groups, coordinating councils, public interest groups, fraternities and sororities, publication and media groups, scholastic and professional honoraries, departmental clubs, special interest groups, religious organizations and sports and recreation clubs. Interested students should contact Student Development on the third floor of the Student Center, telephone 453-5714.

Fraternal Education

The Fraternal Education Program promotes the growth and development of SIUC students who elect to affiliate with Greek letter organizations. Composed of nineteen (19) fraternities and nine (9) sororities, the University's social fraternal system represents one of several alternative lifestyles for college students to pursue. Primary program emphases of the SIUC Fraternal Education Program include: promoting the intellectual, vocational, social, moral and recreational development of students; providing training in leadership skills and other personal and social skills; promoting student involvement in co-curricular activities and community service; promoting Greek life as a productive and viable lifestyle on campus; and promoting an appreciation for different lifestyles and cultural heritages. The Inter-Greek Council, IGC, which consists of elected representatives from each of the nationally recognized chapters, serves as the activity coordinating council for the system. Sub-Councils include the Interfraternity Council, Panhellenic Council, and Pan-Hellenic Council. Major programs and activities sponsored by the Greek System include new Student Orientation Activities, Greek Week, Operation Happy Holiday, and the Annual All-Campus Theta Xi Variety Show, in addition to numerous philanthropic and service projects. Rush, or membership recruitment, is sponsored as well as at designated times throughout the year. For additional information, contact Student Development on the third floor of the Student Center, telephone 453-5714 or stop by the IGC office on the third floor of the Student Center, telephone 453-2633.

The Academy Leadership Education and Development Program

University Student Programming sponsors a student leadership development series designed to provide students with activities and experiences which enhance their leadership skills, encourage student involvement in student volunteer and community service-learning and promote civic responsibility. Through a series of leadership education and training modules, as well as documented University and community experiential learning, students may complete any one of the three programmatic components and be eligible to receive a Student Involvement Transcript. In addition, leadership workshops and special topic seminars, ranging from student organizational management to group development, are offered throughout the year, as well as by special request. A collection of books, handbooks and manuals on such areas as parliamentary procedure, fund raising and budgeting is also available in the Student Development Leadership Library to assist RSO leaders with their organization management skills. To enroll in The Academy or to schedule a workshop, contact Student Development, located on the third floor of the Student Center, telephone 453-5714.

Student Media and Publications

Special opportunities are available for students who have an interest in the areas of media and publications. These include serving as a DJ, producer, or advertising salesperson for WIDB, a 24-hour student-operated radio station broadcast on 600 AM, 104.3 cable FM; or serving as a director, videocamera operator, or on-air personality for SPC-TV. Other opportunities include serving as an editor, photographer, artist, or writer for "Insight" a newsletter published especially for members of the SIUC Parents Association; "Southern Portriat," a periodic newsletter devoted to special features and items of special interest to student leaders and members of RSOs; "Rainbow Connection", a newsletter for parents and children enrolled at Rainbow's End child development center; and a variety of other newsletter designed especially for specific target populations ranging from Student Life Advisors to non-traditional students to minority students. Student Development also serves as the office of record for all RSO media and official publications, and provides assistance to RSOs in meeting University guidelines. For additional information or to volunteer for a stu-

dent publication, contact Student Development, located on the third floor of the Student Center, telephone 453-5714.

Credit for Involvement

In cooperation with various academic units, Student Development provides opportunities for students to receive academic credit for their participation in student activities and student organizations. Opportunities available include leadership development courses for fraternity and sorority members, community service-learning programs for student volunteers, leadership development seminars for Student Life Advisers and Emerging Leaders, leadership development courses for student government members and student judicial board members, and undergraduate and graduate internships in such areas as student development, early childhood education, and student media and publications. For additional information, contact Student Development on the third floor of the Student Center, telephone 453-5714.

MULTICULTURAL PROGRAMS AND SERVICES

A central goal of Multicultural Programs and Services is to create, offer and coordinate programs and activities for minority students. Designed to promote and enhance the educational, leadership and personal growth and development of minority students, MPS activities include: peer mentoring and training; historical commemorations and celebrations; and diversity workshops, seminars and training modules. Each program, designed within a cultural pluralistic context, affords minority students with opportunities to acquire the skills and knowledge base to be successful and involved in the entire SIUC collegiate experience. For additional information, contact Student Development on the third floor of the Student Center, telephone 453-5714.

Saluki Peers

The Saluki Peers is a peer mentoring program designed to provide personal assistance and academic support to minority freshmen and transfer students. Specially trained peer mentors facilitate weekly study sessions and activities related to multicultural communication barriers, time management skills, task management and stress-related problems. To enroll or to volunteer to serve as a peer mentor, contact Student Development on the third floor of the Student Center, telephone 453-5714.

Emerging Leaders Program

The Emerging Leaders Program is designed to assist minority students in developing their full potential as citizen scholars. Through involvement in such activities as weekly class sessions, volunteer services, and mini-internships, students enrolled in the program gain insight into what it is like to be a campus leader at SIUC and confidence in seeking leadership opportunities. Program participants receive academic credit through a course offered in cooperation with Black American Studies. Interested students should contact Student Development on the third floor of the Student Center, telephone 453-5714.

Residence Hall Programs

Multicultural Programs and Services Residence Hall Programs are designed to promote Multicultural awareness on the campus. Simulation programs, including *BaFa BaFa*, *Starpower* and *Barnaga*, in addition to recent movies such as *Higher Learning*, serve as discussion focal points, challenging students to examine their attitudes and stereotyping toward behaviors and opinions of people of diverse cultures. For additional information, contact Student Development on the third floor of the Student Center, telephone 453-5714.

Historical Commemorations and Celebration

SIUC hosts a series of historical commemorations and celebrations throughout the year in celebration of the rich tapestry of cultures represented on the campus. Included are Black History Month (February), Asian American Awareness Month (April), Hispanic Heritage Month (September 15 - October 15), Native American/Indian Heritage Month (November) and Academic Excellence Programs. For additional information, contact Student Development on the third floor of the Student Center, telephone 453-5714.

STUDENT VOLUNTEER AND COMMUNITY SERVICE-LEARNING PROGRAM

SIUC recognizes and agrees that the nation's greatest social problems can only be addressed if individuals, groups and institutions become actively engaged in providing service to the community. Through the Saluki Volunteer Corps, AmeriCorps, and other Student Development programs, SIUC is making every effort to prepare students for a life of involvement and committed citizenship. The Saluki Volunteer Corps, SVC, promotes the ideas of citizenship and concerns for others through student involvement in community service. Students are encouraged, throughout their college career, to participate in community service at least 30 hours each academic year. The Saluki Volunteer Corps not only acts as a clearinghouse for service requests from campus and community agencies, but also documents community service hours, which may be recorded on the student's academic transcript. In addition, a Student Involvement Transcript is provided to all eligible students, listing all career related volunteer experiences, community service, leadership education, and organizational involvement activities in which the student has participated. For additional information, contact Student Development, located on the third floor of the Student Center, telephone 453-5714.

NON-TRADITIONAL STUDENT SERVICES

Designed to assist non-traditional students with their unique educational, personal and professional needs. Non-Traditional Student Services, NTSS, provides services for those students who are 24 years of age or older, are married, have dependents, are enrolled part time, or have been away from formal education for a period of time. Increasing the awareness of and response to non-traditional students and their spouses and families within the University environment are of primary concern. Services offered include assistance with the non-traditional student's transition into the University learning environment, general information and referral services, an emergency locator system for students who are parents, and newsletter and handbook publications especially designed for the non-traditional student. For assistance or additional information, contact Student Development, located on the third floor of the Student Center, telephone 453-5714.

Re-Entry Women's Program

Assisting re-entry women students into and through the University is the central goal of the Re-Entry Women's Program. Services include child care referrals and information on University procedures, as well as networking opportunities to help re-entry women find support and encouragement from one another. For assistance, or additional information, contact Student Development, located on the third floor of the Student Center, telephone 453-5714.

RAINBOW'S END CHILD DEVELOPMENT CENTER

Rainbow's End is a comprehensive child development center designed to serve children, ages 6 weeks to 15 years, of University students, faculty and staff members. The center, which is licensed by the State of Illinois Department of Children and Family

Services, is staffed by qualified professionals, and is a participant in the State of Illinois Child Care Food Program. Special features of Rainbow's End include a range of full and part time day care options, the assessment of tuition and fees based upon the number of hours for which the child is enrolled, and reduced tuition fees for student parents. Programs offered include infant and toddler, preschool, school age, summer school age, and before and after school care, in addition to an evening care program, an intergenerational program sponsored in cooperation with the Carbondale Senior Citizens, and an anti-bias curriculum. Rainbow's End is open from 7:30 A.M. to 5:30 P.M. each day University classes are in session. Break hours are 8:00 A.M. to 5:00 P.M. Evening care services are offered Monday thru Thursday from 5:30 P.M. to 9:45 P.M. For additional information, telephone Rainbow's End at 453-6358.

STUDENT JUDICIAL AFFAIRS

Student Development administers the *Student Conduct Code* and supervises the judicial program for social misconduct, through the Student Judicial Affairs Program. The purpose of the *Student Conduct Code* is to establish and maintain an orderly environment conducive for learning, free expression, free inquiry, intellectual honesty, respect for others, and participation in constructive change; to promote the development of ethically sensitive and responsible persons; and to protect relevant legal rights of students. The judicial program is designed to contribute to the teaching of appropriate individual and group behavior as well as to protecting the campus community from harm and disruption. Special emphasis is placed on the training and contributions of students and faculty who serve on judicial review boards. For additional information regarding the rights and responsibilities of students under the *Student Conduct Code* or the judicial review process, contact Student Development, located in Woody Hall B Wing, telephone 536-2338.

CAMPUS SAFETY PROGRAM

All full-time students support, through their student activity fee, several student safety programs and services, including a Women's Night Safety Transit and Transit Car Service. For more information about these transit services, contact Student Development, Woody Hall B Wing, telephone 536-2338.

Women's Night Safety Transit

Operated Sunday through Friday during the evening hours, Women's Night Safety Transit is available to female students who are concerned about their safety. Rides are provided to students living off campus to bring them to campus for classes, library, and other activities and return home. For rides, telephone 453-2212.

Transit Car Service

Transit Car Service is designed to provide transportation for currently enrolled, disabled students to and from campus for academic purposes on an on-call basis. A similar Day Van Service is available to transport students with disabilities to and from campus for academic purposes on a scheduled basis. For rides, telephone 453-2004.

SalukiSafe

Students, faculty and staff members may request a trained volunteer to serve as an escort from one campus location to another during the evening hours. To request a SalukiSafe volunteer, telephone 453-2212.

TRANSITIONAL PROGRAMS

Early Warning System

While adjusting to college life can be one of the most stressful transitions students may experience, special assistance is offered through the Early Warning System. Trained faculty and staff volunteers are available to assist students by lending support and making appropriate referrals to University professional staff members or campus agencies. Additional information may be obtained by contacting Student Development, Woody Hall, B Wing, telephone 536-2338.

Undergraduate Student Withdrawals

Exit interviews are conducted for all undergraduate students contemplating withdrawal from the University. The purpose of the exit interview is to assess the student's need, suggest alternatives to withdrawal, explain the implications of withdrawal and guide the student through the process. Because withdrawal from the University may have an adverse effect on the student's financial obligations including eligibility to continue to receive financial assistance, and upon the student's permanent academic record including eligibility to be readmitted to the University, each withdrawal request is reviewed independently from each request for a credit/refund of tuition and fees. Contact Student Development, located in Woody Hall, B Wing, telephone 536-2338, for complete details on how to withdraw from the University.

Student Absence Reports

Transitional Programs provides a system to verify and document the reasons for student absences from class. Verified information is forwarded to the student's Academic Dean for transmittal to the individual faculty member for approval or disapproval. This service is provided largely for students who are ill or hospitalized, upon verification by Student Health Programs. However, the service also is provided in cases of family illness, death, or other personal tragedy. For additional information, contact Student Development, located in Woody Hall, B Wing, telephone 536-2338.

Student Death Notices

Student Development, through Transitional Programs, is the office of record regarding all student deaths, including those of former students. When a student death is verified, a notice is sent to appropriate University offices so that institutional records may be adjusted to remove the name of the deceased student. Professional staff members are also available to provide appropriate assistance to the surviving parents or family members. To report a student death, contact Student Development, located in Woody Hall, B Wing, telephone 536-2338.

Power of Attorney

If a student is unable to be on campus to claim a check, arrangements may be made for Transitional Programs to act for the student to negotiate the check to pay any outstanding bills owed to SIUC. This service is provided to student graduates who cannot remain on campus until the check is available or to continuing students who may be away from the campus for a practicum, internships, or student teaching assignment. The student must sign a power of attorney form, have the signature notarized, and authorize negotiation of the check. Exclusions to this service include negotiating grant and student loan checks. For details, contact Student Development, located in Woody Hall, B Wing, telephone 536-2338.

Campus Services

Student Center

The Student Center is the community center of the University for all students, faculty, staff, alumni, and guests. It is not just a building—it is an organization and a program which together represent a well-considered plan for the community life of the University.

The Student Center offers students many work and cocurricular opportunities. Approximately 450 students annually have job opportunities in the Student Center and the center receives sizable student work aid to supplement work opportunities. There are also academic credit and work-related opportunities in conjunction with Commercial Graphics-Design, and the Departments of Educational Administration and Higher Education, Food and Nutrition, and Recreation. In addition, through Student Center and Student Programming Council programs, nonmajors may become actively involved in theater, dance, and other performing arts activities.

As a community center it performs four important missions. It supplies support services which complement the academic mission of the university through the bookstore, food service, information services, and meeting facilities. It is part of the educational program of the University and serves as a laboratory of citizenship and leadership through participation in its various boards and committees that provide a campus-wide social, cultural, and recreational program. It is an extension of the classroom which allows practicum students, graduate assistants and interns the opportunity to develop on-the-job expertise in their fields of learning. It serves as a unifying force in the University, cultivating interactions on a common ground between students, faculty, staff, alumni, and friends. It is a focal point to which alumni and students can relate when returning to campus.

The Student Center covers almost eight acres of floor space and is open approximately 16 hours a day, seven days a week. The University Bookstore sells new and used textbooks and school and personal supplies. An extensive food service includes fast food offerings such as McDonald's, as well as traditional services, such as the Old Main Restaurant, Bakery, and catering. Other facilities and services include a campus-wide ID system, automated post office, automated banking, event ticket sales, check cashing, Student Health Assessment Center, bowling lanes, billiard room, craft shop, art exhibit and display case areas, television and video lounges, and general lounges for study and relaxation.

Other available facilities include ballrooms, an auditorium, and several private meeting and dining rooms. Offices in the Student Center are the Student Development Office, the University Programming Office, and student organization and student government offices.

University Bookstore

The University Bookstore is an integral part of the Student Center and is located on the ground floor with the main entrance at the cross halls.

As part of the educational process, the University Bookstore provides textbooks and specialized supplies for all classes. It also has a general book department with references and current best sellers. In the supply sections, the University Bookstore carries a variety of office supplies, school supplies, art and engineering materials, computer supplies, imprinted apparel, gift items and greeting cards, and personal products.

The University Bookstore also provides the following services: book and thesis binding, laminating, rubber stamp ordering, class ring sales, technical pen cleaning, gift wrapping, document placquing, geological survey maps, postage stamps, Visa and Mastercard, cap and gown rental and sales, special order services for books and supplies, and textbook buy back service. Money spent at the University Bookstore returns to the operation of the Student Center.

Another important mission of the University Bookstore is to provide job opportunities, retailing and marketing experiences, internships, and a laboratory for research.

SIU Arena

The SIU Arena hosts a variety of athletic events, meetings, musical programs, stage performances and similar activities that demand an indoor participant area or a facility capable of accommodating large audiences. The SIU Arena is the site of the University's largest commencement ceremonies, graduating a total of 3,282 graduates in 1996. The staff of the SIU Arena is available to assist in achieving the goals of the educational programs of various University departments, in scheduling the facility for a number of indoor sporting events and practices for the Department of Intercollegiate Athletics, and in providing equipment and facilities for various University student groups. Finally, the SIU Arena presents a popular entertainment series that helps to fulfill the educational, cultural and entertainment needs of the University and its surrounding communities.

Shryock Auditorium

Located on the old campus of Southern Illinois University Carbondale, Shryock Auditorium stands as the finest performing arts center in southern Illinois.

Constructed in 1917 and named after University president Henry William Shryock, the facility was renovated in 1970 at a cost of 1.5 million dollars. Upon re-opening in January, 1971, guests were pleased and surprised to find a new decor of opulent grand opera splendor, while the original motif of the building had been retained.

As the largest auditorium on campus, seating over 1,200, Shryock Auditorium is well equipped to handle almost any type of event, from the performing arts on a grand scale to large group meetings and conferences. Facilities include dressing rooms capable of accommodating up to 70 performers, modern stage rigging, lighting and sound systems, and air conditioning throughout the audience areas.

Shryock Auditorium annually presents the finest in touring musicals, plays, ballet, modern dance, opera, international entertainment, and big bands. In addition, the Auditorium is utilized by functional units of the University, by recognized student organizations, and by non-student on-campus groups when the event is of educational, cultural, or social significance.

The beautiful decor and appointments of Shryock Auditorium, with the nostalgic memories surrounding this old campus landmark, make it one of the places to which students and alumni return and proudly show campus visitors year after year.

University Museum

The University Museum serves the campus community and surrounding area through its active exhibit program and in its cooperative ventures with other academic units to improve the quality of instruction.

The exhibits housed in the University Museum facility, Faner Hall, C wing, are designed to give viewers an authentic glimpse of the area's past. Changing exhibits displayed in the University Museum include a series of graduate student thesis presentations, faculty art, and photography, as well as exhibits from the permanent collections and special national and international exhibits designed around a particular theme. In addition to these formal exhibits, many permanent collection objects are displayed at several other campus locations.

The University Museum also serves students in more specific ways, by providing on-the-job training, courses in museum studies, and opportunity for creating and installing practicum exhibits of art, history, and science. Through these avenues, students are able to draw on the extensive collections which include works of fine art, ethnographic artifacts from many areas of the world and 19th and 20th century historic objects.

The University Museum provides a community service through guided tours, lecture programs, a loan program, and exhibits in public places; worldwidewebsite; and works with many area groups and Illinois Public Schools to provide meaningful learning experiences.

Campus Communications Media

SIUC BROADCASTING SERVICE

The SIUC Broadcasting Service operates public television stations WSIU-TV 8 in Carbondale and WUSI-TV 16 in Olney, and public radio stations WSIU-FM 91.9 in Carbondale and WUSI-FM 90.3 in Olney. Students are provided opportunities to get hands-on experience in a wide range of radio and television specialties. The Broadcasting Service encourages active student volunteer participation in all areas of its operations. Students are able to work with modern equipment in actual on-the-air situations. They can become involved in the creation of radio and television programming, and they can compete for paid student staff positions.

The stations of the SIUC Broadcasting Service are affiliated with a variety of national organizations such as National Public Radio and the Public Broadcasting Service. Students who work at the stations have learning experiences available to them which are extremely valuable upon entering the job market. Southern Illinois University Carbondale is known nationally and admired for the practical experience it provides its students through participation in radio and television station activities.

NEWSPAPER

The *Daily Egyptian*, campus newspaper, is published when the University is in session Mondays through Fridays, spring and fall semesters and Tuesday through Fridays during the summer session, and serves as a morning daily newspaper for the University community. Paid tuition entitles students to a copy of the *Daily Egyptian* newspaper. The publication also serves as a laboratory newspaper for students in the School of Journalism, produced under professional supervision, using student editors and staff. About 100 students work at news gathering, editing and layout, production, advertising and distribution. The circulation is about 23,000. Students do not have to be enrolled in journalism to be employed in the newspaper departments of news, photography, camera, paste-up, typesetting, advertising, business, printing, and circulation. The newspaper is published and printed in a plant equipped with electronic facilities to produce a 40-page daily newspaper on a web offset press.

Intercollegiate Athletics

Excellence within the realm of competition and the classroom remains the standard for Southern Illinois University Carbondale's athletics program which provides 18 sports for men and women. All intercollegiate sports compete at the NCAA Division I level.

Sports are offered in basketball, baseball, cross country, football, golf, softball, swimming and diving, tennis, track and field, and volleyball. All saluki sports compete within the Missouri Valley Conference (MVC), except for football, which belongs to the Gateway Conference. Many former Salukis have starred professionally and in the highest amateur circles. Steve Finley (San Diego Padres) and Dave Stieb (Toronto Blue Jays) have made their marks in the major leagues. In football, SIUC had a fifth round draft pick this spring in Damon Jones (Jacksonville Jaguars).

SIUC student-athletes routinely gain high marks in the classroom. Forty-seven percent of the University's sports participants had at least a *B* average during Fall 1997. In particular, teams sparkled academically in Women's Tennis (3.46 gpa), and Men's Tennis (3.39 gpa); seven members of the Women's Track and Field team were among the 50 Dean's List honorees. During the 1990's SIUC student-athletes have been named GTE Academic All-American a total of 23 times.

Intramural-Recreational Sports

The Office of Intramural-Recreational Sports enhances the educational experience for the SIUC community by providing recreational programs, services and facilities that promote the holistic development of participants.

Intramural-Recreational Sports offers students, faculty, staff, alumni and their families a wide variety of recreation activities. The 214,000 square-foot Student Recreation Center houses an Olympic-size swimming pool, two indoor tracks, six activity areas for basketball, volleyball, badminton and aerobics, one indoor recreational tennis court, two weight rooms, a sports medicine office, two squash courts, fourteen racquetball/handball courts and an indoor rock climbing practice wall. Lake-on-the-Campus recreational facilities include a sandy beach with a bath house and sunning raft, a jogging path and a boat dock. More than twenty tennis courts are located at five convenient locations across campus.

There are programs for people with disabilities and special events for international students. Recreational Sports provides structured programs, including aerobic classes for every skill level and instruction is available for a wide variety of activities, including yoga, massage, weight training, martial arts, tennis, volleyball, racquetball and swimming. Intramural Sports offers over 40 intramural competitive sport activities ranging from basketball to innertube water polo. Youth Programs offers instruction for children, including martial arts, roller hockey, tennis, basketball and the climbing wall.

Over thirty sport clubs, among them equestrian, rugby, soccer, water polo, outdoor adventure, ultimate frisbee, and volleyball, compete on-campus and at other universities.

The Sport Medicine Office, operated cooperatively by the Wellness Center and Intramural-Recreational Sports, offers injury rehabilitation, fitness assessments, blood pressure and body fat checks, nutrition analyses, and a supervised workout and exercise assistance program (S.W.E.A.T.).

The Adventure Resource Center provides outdoor recreational information and sponsors informative clinics on topics such as fishing, bike maintenance and rock climbing. Camping equipment and canoes can be rented from Base Camp for a minimal daily fee. Special trips are offered each year to places like the Grand Canyon and Yellowstone National Park. For more information about Intramural-Recreational Sports, call (618) 536-5531 or check our web site at: <<http://www.siu.edu/~oirs>>.

Campus Ministries

Campus Ministries at Southern Illinois University Carbondale, with an awareness of the diverse religious and cultural traditions existing in society, are committed to all efforts unifying the people of God with loving concern for one another. The member ministries see the University as a unique setting for the development of personal growth and commitment in a richly varied environment, providing dialogue and interaction in all aspects of a person's life. They share with the University community in a joint search for truth and an ever deeper meaning in life. Sixteen individual ministries, Jewish and Christian, constitute the Campus Ministries organization. For a current brochure containing more detailed information about their worship, programs, and fellowship offerings, telephone (618) 457-8165 or write Campus Ministries, 816 S. Illinois, Carbondale, IL 62901.

Student Health Programs

The University is committed to assisting students to maximize their academic achievement and reduce health and psychological barriers by offering an extensive primary health care plan and insurance benefits package through the Student Health Programs. These plans offers many programs and services that include physical, mental, and dental health, wellness and extended care insurance. The mission of the Student Health Programs is to assist students by providing services that are comprehensive, accessible and result in a healthy campus culture.

ELIGIBILITY AND FEES

Any student who is enrolled at Southern Illinois University Carbondale and has paid the student medical benefit fees (primary care and extended care) is eligible for services. The student medical benefit fees are assessed each semester and summer session. Dependents of students are not eligible for Student Health Programs benefits.

AREAS OF SERVICES

The Student Health Programs (SHP) offers the following interrelated programs and services.

On-Campus Outpatient Care. This primary care is the same as that offered by private general physicians. The Health Service Clinic is staffed by physicians, a full-time psychiatrist, physician assistants, registered nurses and support staff. The Student Medical Benefit (SMB) Fees paid by SIUC students include all routine office care and a wide range of diagnostic tests, including laboratory and x-ray procedures. The Women's Health Clinic is offered as an option for female students who wish to have gynecological care and education provided by female health care providers. Appointments may be scheduled at the Health Service Clinic from 7:30 a.m. - 4:30 p.m. Monday through Friday. The Health Service is on an appointment only system. Call 453-3311 for an appointment. The Health Service Clinic has a phone number for the hearing impaired. The TDD number is 453-3384 and may be used to make appointments at the Health Service Clinic. There is a \$5.00 charge for each Clinic Service visit.

Immunizations. Illinois law, Public Act 85-1315, requires all persons entering a four-year public or private institution of higher education to provide proof of immunization before registering for a second semester. For an appointment and information, call 453-4454. Proof of immunity is required for Tetanus, Diphtheria, Measles, Mumps and Rubella. A \$25.00 late compliance fee will be assessed to students who fail to provide proof of immunity or have begun to receive the necessary series of immunizations by the end of the seventh week of the semester. This fee is not refundable.

Dial-A-Nurse. The Dial-A-Nurse program provides an after-hours advisory service during Fall and Spring semesters. The number to call is 536-5585 from 4:30 p.m. - 10:30 p.m. (Monday - Friday) and 2:30 p.m. - 10:30 p.m. Saturday and Sundays.

Pharmacy. Prescriptions and over-the-counter drugs are available at the Pharmacy. Prescriptions from physicians outside the Health Service may be filled and students may pay for the pharmacy items by cash, check or by charging to their Bursar's account.

Student Emergency Dental Service. This program provides dental care to resolve emergency dental disorders, to answer dental concerns and perform some routine fee-for-service procedures billed through the student's Bursar account.

Counseling Center. The Counseling Center is staffed by professional psychologists and is ready to help students deal with scholastic, family, emotional, medical, legal or financial problems. The Counseling Center's staff is committed to meeting the special needs of individuals from diverse backgrounds including differences of race, culture, gender, ability and sexual orientation.

Women's Services. Women's Services is a component of the Counseling Center which is devoted to the support, education and personal growth of women. Women's Services provides workshops, consultation, resource materials, short term individual counseling, campus safety programming, re-entry services for University women and other programs offering services to women.

Wellness Center. The Wellness Center offers programs and services to help students achieve optimal health and skillfully administer self-care when ill. Individual and small group counseling, workshop and seminars in the Student Center, residence

halls, and the Student Recreation Center, classroom presentations and special programs are offered throughout the year.

Extended Medical Care Benefit Plan (Student Insurance). The Student Medical Benefit Extended Care fee is assessed each semester and summer session and funds the insurance benefits of emergency room, ambulance, specialty care, hospitalization, outpatient surgery, mental health care and accidental death and dismemberment.

Extended Medical Care Benefit Fee Refund. Students who carry their own medical insurance or are covered under their parents' policy may be eligible for a refund of the Extended Care (Insurance) fee. Students who think they may qualify for a refund must apply no later than the end of the second week of fall and spring semesters or by the end of the first week of the summer session. When applying, students must provide a copy of their insurance policy and insurance identification card to the Student Medical Benefits Office.

Subrogation Clause. If any student has rights to recover damages from another person, those rights are transferred to Southern Illinois University to the extent of our payment of the value of the services rendered. The student must do everything requested to secure SIUC's rights and must do nothing after loss to impair them; otherwise, the student may be held personally accountable to the extent of payments made or the value of services rendered.

Confidentiality of Information. All visits to any division of the Student Health Programs are confidential. Medical information may be released when authorized by the student. Medical information may also be released without authorization from the student to a court when subpoenaed, to the University Legal Counsel when the University is being sued and the medical information would be pertinent, and to the public health department as required by law when a student is suffering from a reportable communicable disease. In addition, cases involving firearms and criminal offenses must be reported to the police.

LOCATION OF SERVICES

Student Health Programs on-campus services are available at the following locations. The SHP Clinic, Radiology and Laboratory services are located in Beimfohr Hall, 115 Small Group Housing. Call 453-3311 for appointments. The Pharmacy (453-4417), Wellness Center (536-4441), Extended Care Insurance (453-4413) and Administration offices (536-7575) are located at Kesnar Hall, 112 Small Group Housing. The SHP Student Emergency Dental Service (536-2421) is located in the College of Applied Sciences and Arts building (Technology), Room 25D. The Student Health Assessment Center (453-5238) is located in the Student Center. The Counseling Center (453-5371) is located in A wing, 3rd floor of Woody Hall. Women's Services (453-3655) is located in B Wing, 2nd floor of Woody Hall.

Off-campus services for after-hours emergency care are available at Memorial Hospital of Carbondale at 404 West Main Street, 549-0721 and at the Urgent Care Center at the Carbondale Clinic, 2601 West Main Street, 549-5361.

University Career Services

From your arrival on campus through graduation, our goal is to assist your quest to shape an education that is both meaningful and marketable. Individual consultation appointments, professional development seminars, career entry tests, on-campus interviews, job listing and referral services, and career fairs are just a sampling of the activities we sponsor to assist you.

Career specialists are available to help you answer your questions surrounding all aspects of career planning, including choosing a major and finding careers that match interests, personality, and values. Staff counselors representing each instructional unit or college assist students and alumni in developing job search skills and strategies as well as introducing you to prospective employers.

Negotiating entry into college, specific majors, graduate school and even some professions can involve the taking of one or more standard tests. As a regional testing center, University Career Services is committed to providing opportunities for you to successfully complete your goals by offering undergraduate/graduate admission, placement, proficiency, and other specialized tests.

Make your career a priority: stop in and visit with us often! University Career Services is located in Woody Hall, B204, 453-2391.

Services to Students with Disabilities

The University maintains a strong commitment to make all services, programs, and activities equally available to students with disabilities. Students who have disabilities are integrated into regular programs and services. Academic support services are provided through the Disability Support Services Office and other departments in order that this student population may obtain the maximum academic, social, and cultural benefits within the University community. Services and programs include pre-admission information, pre-enrollment planning, orientation, transportation, recreational activities, proctoring academic examinations, alternate materials and equipment for visually impaired students, learning disabled, and hearing impaired students, reader recruitment and referral, recruitment and referral of personal attendants, interpreters and notetakers for hearing impaired students, wheelchair repair, special parking, liaison with academic departments and service offices, and liaison with agencies such as Department of Rehabilitation Services.

The campus is quite accessible to students who use wheelchairs, and by those who are semi-ambulatory, visually handicapped, hearing impaired, learning disabled or otherwise disabled. The University Housing Office provides modified housing in the Thompson Point Residential Area and in the family housing areas.

Persons with disabilities apply and are considered for admission in the same manner as non-disabled persons. The nature or severity of disability is not considered in the admission determination. Persons with disabilities interested in attending Southern Illinois University Carbondale are encouraged to visit the campus in order to discuss programs and services and to tour the campus. Prospective students who have a disability are also encouraged to formally apply for admission as far in advance as possible to ensure sufficient time for planning support services after being admitted but before the starting date of the semester.

Any further information may be obtained by writing to the Office of Admissions or the Disability Support Services Office (DSS). DSS may be reached by calling (Area Code 618) 453-5738 (Voice) or 618-453-2293 (TDD).

Office of the University Ombudsman

The Office of the University Ombudsman was established to assist individuals in resolving problems that arise in the University. The office is independent from other offices of the University and reports directly to the Chancellor. The office acts on complaints or suggestions from students, faculty, and staff in an attempt to ensure that members of the University community receive fair and equitable treatment within the University system. This includes ensuring that decisions affecting individuals are made promptly and with due process, not only with respect to the adequacy of the procedures used in decision making, but also with respect to the appropriateness of the criteria and rules upon which decisions are based.

The office helps individuals resolve a broad range of problems expeditiously, including academic matters, employment matters, and matters regarding University services. Such assistance may include: advising individuals on steps to take so that their claims may be heard or their questions answered; making referrals to other offices; investigating claims of unfair treatment or erroneous procedures; engaging in mediation to obtain a fair settlement; and assisting in accessing University grievance mechanisms when other methods are unsuccessful. In addition, the ombudsman will

intervene in the bureaucratic process on behalf of individuals when such process unnecessarily or unfairly impinges upon them.

The ombudsman office also brings to the attention of those in authority any gaps or inadequacies in existing University procedures that might jeopardize the human rights and civil liberties of members of the University community.

The ombudsman has the authority to access official files as required to fulfill the functions of the office. However, names of persons requesting help cannot be used in the investigation of a case without permission; and all ombudsman records, contacts and communications are kept in the strictest confidence.

The office is located in Woody Hall C302; hours are 8:00 to 4:30, Monday through Friday; and the telephone number is 453-2411. More information about the office may be found at: <www.ombuds.siu.edu>.

Clinical Center

The Clinical Center is staffed by faculty and supervised student clinicians who provide a wide variety of services to SIUC students as well as to faculty, staff and the general public. Services offered include: (1) Counseling (individual, family, marriage, group and child as well as parenting training); (2) Psychological evaluations (academic, intellectual and personality evaluations); (3) Speech-language evaluations and therapy in areas of speech and language, language processing, delayed language, fluency, accent reduction, and voice; (4) Physical therapy evaluations and treatment (available with a written referral from an appropriate health-care professional); (5) Reading evaluations and instruction.

Alumni Services

Founded in 1896, the Southern Illinois University Alumni Association provides services and support to alumni and students of the university. The Association publishes the quarterly *Southern Alumni* magazine and sponsors alumni chapters, college alumni societies, reunions, Homecoming activities, and a number of special events throughout the year. Ongoing services to students include externships, opportunities for juniors and seniors to serve career internships with alumni; Super Student scholarships; 25 most distinguished seniors; student/alumni membership; and the Student Alumni Council, a registered student organization that links current students with alumni.

International Programs and Services

International Programs and Services is an administrative unit within the Office of the Provost (Academic Affairs). Programs and services offered by the unit are operated through three divisions: International Students and Scholars, Study Abroad, and International Development.

International Students and Scholars. A comprehensive range of programs and services is provided to international students and the broader community to facilitate educational and cultural exchange by the International Students and Scholars division. These include the areas of immigration and financial services, educative and supportive services, and intercultural community activities.

Immigration and financial services include processing financial clearance for admissions of foreign students, serving as a liaison with foreign governments and sponsoring agencies, and providing certification for foreign currency exchange. Information about sources of financial aid for international students is available. Also, assistance with U.S. immigration regulations, visas, and interpretation of the law pertaining to non-immigrant students and scholars is provided. Forms prescribed for use by the Immigration and Naturalization Service for documenting foreign students and scholars are available here.

Educative and supportive services add a full complement of programs and ac-

tivities from pre-arrival information for new students to preparation for going home workshops. Within this area are: a monthly newsletter, the *International Dateline*; individual foreign student advisement and counseling; advisement of international student associations and the International Student Council; assistance with initial arrival and settling in; and referrals to community or other campus agencies. The annual International Festival is a major event of interest to the University community.

International Programs and Services works closely with the International Friends Club, a community volunteer organization, on community programs. Eight programs are offered to international students and their families and international visitors for the purpose of intercultural understanding and exchange. The programs include the Hospitality Program, English in Action, Language Exchange, Speakers' Bureau, International Custom Cooking Demonstration, American Cuisine, International Spouses Group, and a Loan Closet. An extension of the Speakers' Bureau is the IN GEAR program, an International Network for Global Educational Activities in Rural Schools, whereby international students are invited to speak in public school classrooms. Information about any of these programs may be obtained from International Programs and Services. International Students and Scholars is located at B-Wing, North West Annex. The telephone number is 453-5774.

Study Abroad Programs. The study abroad division coordinates services for American students and faculty, including international grant programs, exchanges, and study abroad programs. It is the central referral point for information on the student and faculty Fulbright programs and on the British Marshall, International Research and Exchange Board (IREX). Students may also participate in inter-university international exchange programs, semester abroad programs, and in travel/study programs offered during the summer and intersession periods. Study Abroad Programs is located in Room B220, North West Annex. The telephone number is 453-7670.

International Development. The International Development division provides University-wide coordination, support, and leadership for a wide variety of developmental activities. These activities include research and dissemination of information on externally funded programs, maintenance of an international resource collection, development of proposals for grants and projects, administration of international agreements, coordination of services for visiting international scholars and delegations, reports, planning statements, and studies on international activities.



7 / University Policies



Determination of Residency Status

[The following has been re-organized and edited for undergraduate students. The full text appears as SIU Board of Trustees 3 Policies A.]

Bona Fide Residence

For tuition purposes a *bona fide residence* is a domicile of an individual which is the true, fixed, and permanent home and place of habitation. It is the place to which, whenever absent, the individual has the intention of returning.

Criteria to determine this intention include but are not limited to year around residence, voter registration, place of filing tax returns (home state indicated on federal tax return for purposes of revenue sharing), property ownership, driver's license, car registration, vacations, and employment.

Except for those exceptions clearly indicated in these regulations, in all cases where records establish that the person does not meet the requirements for resident status as defined in these regulations, the non-resident status shall be assigned.

Procedure for Review of Residency Status or Tuition Assessment

A student who takes exception to the residency status assigned or tuition assessed shall pay the tuition assessed but may file an application with the Admissions Office for a reconsideration of residency status and an adjustment of the tuition assessed.

The application and supporting documents must be filed within 30 school days from the date of assessment of tuition or the date designated in the official university calendar as that upon which instruction begins for the academic period for which the tuition is payable, whichever is later, or the student loses all rights to a change of status and adjustment of the tuition assessed for the term in question.

If the student is dissatisfied with the ruling in response to the application made within said period, the student may appeal the ruling to the chancellor's designee by filing with that official within 20 days of the notice of the ruling a written request.

Definitions of Terminology

To the extent that the terms *bona fide residence*, *independent*, *dependent*, and *emancipation*, are not defined in these regulations, definitions shall be determined by according due consideration to all of the facts pertinent and material to the question and to the applicable laws and court decisions of the State of Illinois.

The term *the State* means the State of Illinois.

Residency Determination

Evidence for determination of residence status of each applicant for admission to the university shall be submitted to the Admissions Office at the time of application for admission. A student may be reclassified at any time by the university upon the basis of additional or changed information. However, if the university has erroneously classified the student as a resident, the change in tuition shall be applicable beginning with the term following the reclassification; if the university has erroneously classified the student as a nonresident, the change in tuition shall be applicable to the term in which the reclassification occurs, provided the student has filed a written request for review in accordance with these regulations. If the university has classified a student as a resident based on false or falsified documents, the reclassification to non-resident status shall be retroactive to the first term during which residency status was based on the false or falsified documents.

Adult Student

For the purpose of these regulations an *adult* is considered to be a student 18 years of age or over; a *minor* student is a student under 18 years of age. An adult, to be considered a resident, must have been a bona fide resident of the State for a period of at least 3 consecutive months immediately preceding the beginning of any term for which the individual registers at the university, and must continue to maintain a bona fide residence in the State, except that an adult student whose parents (or one of them if only one parent is living or the parents are separated or divorced) have established and are maintaining a bona fide residence in the State and who resides with them (or the one residing in the State) or elsewhere in the State will be regarded as a resident student.

Minor Student

The residence of a minor shall be considered to be and to change with and follow:

1. that of the parents, if they are living together, or living parent, if one is dead; or
2. if the parents are separated or divorced, that of the parent to whom the custody of the person has been awarded by court decree or order or, in the absence of a court decree or order, that of the parent with which the person has continuously resided for a period of at least 3 consecutive months immediately preceding registration at the university; or
3. that of the adoptive parents, if the person has been legally adopted and, in the event the adoptive parents become divorced or separated, that of the adoptive parent whose residence would govern under the foregoing rules if that parent had been a natural parent; or
4. that of the legally appointed guardian of the person; or
5. that of the *natural* guardian, such as a grandparent, adult brother or adult sister, adult uncle or aunt, or other adult relative with whom the person has resided and by whom the student has been supported for a period of at least 3 consecutive months immediately preceding registration at the university for any term, if the person's parents are dead or have abandoned said person and if no legal guardian of the person has been appointed and qualified.

Parent or Guardian

No parent or legal or natural guardian will be considered a resident of the State unless said person

1. maintains a bona fide and permanent place of abode within the State, and
2. lives, except when temporarily absent from the State with no intention of changing the legal residence to some other State or country, within the State.

Emancipated Minor

If a minor has been emancipated, is completely self-supporting, and actually resides in the State, the minor shall be considered to be a resident even though the parents or guardian may reside outside the State. An emancipated minor who is completely self-supporting shall be considered to *actually reside in the State of Illinois* if a dwelling place has been maintained within the State uninterrupted for a period of at least 3 consecutive months immediately preceding term registration at the university. Marriage or active military service shall be regarded as effecting the emancipation of minors, whether male or female, for the purposes of this regulation. An emancipated minor whose parents (or one of them if only one parent is living or the parents are separated or divorced) have established and are maintaining a bona fide residence in the State and who resides with them (or the one residing in the State) or elsewhere in the State will be regarded as a resident student.

Married Student

A nonresident student, whether male or female, or a minor or adult, or a citizen or noncitizen of the United States, who is married to a resident of the State, may be clas-

sified as a resident so long as the individual continues to reside in the State; however, a spouse through which a student claims residency must demonstrate residency in compliance with the requirements applicable to students seeking resident status.

Persons Without United States Citizenship

A person who is not a citizen of the United States of America who meets and complies with all of the other applicable requirements of these regulations may establish residence status; unless the person holds a visa which on its face precludes an intent to reside in the United States.

Armed Forces Personnel

A person who is actively serving in one of the Armed Forces of the United States and who is stationed and present in the State in connection with that service and submits evidence of such service and station, shall be treated as a resident as long as the person remains stationed and present in Illinois.

If the spouse or dependent children of such member of the Armed Forces also live in the State, similar treatment shall be granted to them.

A person who is actively serving in one of the Armed Forces of the United States and who is stationed outside the State may be considered a resident only if the individual was a resident of the State at the time of entry into military service, except as otherwise specified by board policy.

A person who is separated from active military service will be considered a resident of Illinois immediately upon separation providing this person.

1. was a resident of the State at the time of enlistment in the military service; became treated as a resident while in the military by attending school at SIU while stationed in the State; or
2. has resided within the State for a period of 3 months after separation.

State and Federal Penitentiary

A person who is incarcerated in a State or Federal place of detention within the State of Illinois will be treated as a resident for tuition assessment purposes as long as said person remains in that place of detention. If bona fide residence is established in Illinois upon release from detention, the duration of residence shall be deemed to include the prior period of detention.

Minor Children of Parents Transferred Outside the United States

The minor children of persons who have resided in the State for at least 3 consecutive months immediately prior to a transfer by their employers to some location outside the United States shall be considered residents. However, this shall apply only when the minor children of such parents enroll in the university within 5 years from the time their parents are transferred by their employer to some location outside the United States.

Dependents of University Employees

The spouses and dependent children of all staff members (academic, administrative, nonacademic) on appointment with the university shall be considered as resident students for purposes of tuition assessment.

Contractual Agreements

The chancellors, with the approval of the president, may enter into agreements with other institutions in or out of state under the terms of which students at the other institutions are defined as residents of the State of Illinois.

Immunization Policy

Students who enroll in on-campus courses shall present to the Student Health Programs proof of immunity evidencing the following immunizations, UNLESS they are exempt from doing so as hereinafter provided:

I. Diphtheria, Tetanus

- A) Any combination of three or more doses of DPT, DT, or Td vaccine, with the most recent dose having been received within 10 years prior to enrollment.
- B) The minimum time interval between the first and second dose must have been at least four weeks, with the third dose having been received at least six months after the second or last dose of the basic series.
- C) Receipt of Tetanus Toxoid (T.T.) vaccine is not acceptable in fulfilling this requirement.

II. Measles

- A) Immunization with two live measles virus vaccines on or after the first birthday. If vaccine was received prior to 1968, proof must be provided that a live virus vaccine, without gamma globulin, was administered a minimum of 30 days apart; or
- B) Laboratory (serologic) evidence of measles immunity; or
- C) A physician's signed confirmation of disease history and date of conclusive diagnosis.

III. Rubella

- A) Immunization with rubella vaccine on or after the first birthday; or
- B) Laboratory (serologic) evidence of rubella immunity.
- C) History of disease is not acceptable as proof of immunity.

IV. Mumps

- A) Immunization with live mumps vaccine on or after the first birthday; or
- B) A Physician's signed confirmation of disease history and date of conclusive diagnosis.
- C) Laboratory (serologic) evidence of mumps is now acceptable as proof of immunity.

Proof of Immunity

- I. Proof of immunity may be provided by a certificate of immunity containing the following information:
 - A) The month, day, and year of vaccine receipt for measles, mumps, and rubella. Whole year dates (e.g. 1980) are acceptable only when it is clear that the student was at least twelve months of age when the vaccine was received.
 - B) The month, day, and year of vaccine receipt for diphtheria and tetanus.
- II. Proof of immunity may also be provided by a copy of the student's Illinois high school health record which complies with the immunization requirements.

Exemptions

- I. This policy does not apply to:
 - A) persons enrolled at the University prior to Fall Semester 1989;
 - B) persons born before January 1, 1957;

- C) persons whose instruction solely involves research, field work or study outside of a classroom environment.

II. Medical Exemption

- A) No proof of immunization shall be required if a physician licensed to practice medicine in all of its branches, certifies that any immunization required herein is medically contraindicated.

III. Religious Exemption

- A) No proof of immunization shall be required if the person or his or her parent(s) or guardian state, in writing, an objection to immunization on religious grounds.

A student to whom this requirement applies who enrolls without providing the required proof of immunity shall be precluded from enrolling in a subsequent term until such time as appropriate documentation is presented to the Student Health Programs or until a medical or religious exemption is granted by the University.

These requirements are drafted in accordance with the College Immunization Code promulgated by the State Department of Public Health. In the event that said Code is changed and conflicts with these requirements, The Code shall be controlling. If students have any questions concerning these requirements, they should contact the Student Health Programs Immunization Office at 453-4454.

Policy on the Release of Student Information and Access to Student Records at Southern Illinois University Carbondale

I. Purpose

Southern Illinois University Carbondale, hereinafter referred to as the University, maintains individual records and information about students for the purpose of providing educational, vocational, and personal services to the student. For the purpose of complying with federal regulations regarding the maintenance of confidentiality of student educational records, as required by the Family Educational Rights and Privacy Act of 1974, the following policy has been enacted.

II. Definitions

- A. Student is defined as a person who is or has been enrolled at Southern Illinois University Carbondale in a course of study either on campus or off campus. Solely for purpose of this policy, any student attending Southern Illinois University Carbondale will be considered to be an adult and to have sole control over the release of their information except as provided in this policy. The term enrolled is defined as having registered and paid fees into a course of study.
- B. Education records means those records which are directly related to a student, and are maintained by Southern Illinois University Carbondale or any subunit or by any party acting for Southern Illinois University Carbondale. The term does *not* include
 - 1. Personal records of instructional, supervisory, and administrative personnel which are not revealed to other individuals.
 - 2. Records of a law enforcement unit of an educational institution which are (a) maintained apart from the education records, (b) maintained solely for law enforcement purposes, and are not disclosed to individuals other than law enforcement officials of the same jurisdiction.

For purposes of this policy, the Southern Illinois University Carbondale Public Safety Office will be treated as an outside agency and will therefore be required to comply with all regulations relating to the disclosure of information from students' educational records, as set forth in the policy.

3. Employment records, so long as they are maintained separately from any educational record.
 4. Records of a physician, psychologist, or other recognized professional or paraprofessional acting in his or her professional capacity which are used only in connection with treatment and are not disclosed to individuals other than those providing the treatment; Provided that these records can be personally reviewed by a physician or other appropriate professional of the student's choice.
 5. Records which contain only information relating to a person after that person was no longer a student at Southern Illinois University Carbondale, such as alumni files.
- C. Student Information means any information contained in an educational record as defined in II. B.
- D. Personally identifiable information includes
1. The name of a student, the student's parents, student's spouse, or other family member.
 2. The address of the student.
 3. A personal identifier such as the student's social security number or student number.
 4. A list of personal characteristics which would make the student's identity easily traceable.
 5. Other information that would make the student's identity easily traceable.
- E. Directory information includes
1. Student name.
 2. Student local address and telephone number.
 3. Student home address and telephone number.
 4. Current term hours carried.
 5. Classification (freshman, sophomore, etc.)
 6. Academic unit.
 7. Major.
 8. Date of attendance.
 9. Degrees and honors earned and dates.
 10. The most previous educational agency or institution attended prior to enrollment at Southern Illinois University.
 11. Participation in officially recognized activity or sport.
 12. Weight, height, and pictures of members of athletic teams.
 13. Date of birth.
 14. Picture.

III. Basic Policy Regarding Disclosure of Information from Educational Records

A. Disclosure not requiring prior consent

1. The appropriate recordkeeping office shall obtain the written consent of the student before disclosing personally identifiable information from the records of a student, except in the case of directory information or disclosures to:
 - a. The student himself/herself.
 - b. University personnel who have a legitimate educational need to permit their functioning or research. The sufficiency of the need

will be determined by the head of the unit from which the records are sought.

Student information supplied to any Southern Illinois University Carbondale personnel or unit is provided on the basis that it is needed to permit their necessary functioning. All members of the faculty, administration, and clerical staff must respect confidential information about students they require in the course of their work. They are bound by the conditions outlined in this policy statement relative to the release of student information. All institutional personnel should be alert to refer promptly to the appropriate office requests for transcripts, certifications, or other information which that office typically provides. They should restrict their responses to acknowledging, when appropriate, the receipt of requests for student information germane to their sphere of responsibility.

- c. Officials of other schools or school systems in which the student seeks or intends to enroll, if there is a legitimate need. The sufficiency of the need will be determined by the head of the unit from which the records are sought. A copy of any information sent will be provided to the student upon request.
- d. Faculty or students conducting student characteristic research providing the research project has written approval of the academic unit executive officer sponsoring the research and providing guarantees are made that no personally identifiable information will be published or released.
- e. Certain state and federal representatives specified by law for the sole purpose of the evaluation and auditing of governmentally funded programs in which the University participates, with the guarantee that the identity of the students will be protected.
- f. State and local officials as directed by the State Statute adopted prior to November 19, 1974, as approved by University Legal Counsel.
- g. Organizations conducting studies for, or on behalf of, state or federal educational agencies or institutions for the purpose of developing, validating, or administering predictive tests, administering student aid programs, and improving instruction, with the guarantee that the identity of the student shall be protected.
- h. In connection with financial aid for which the student has applied or received.
- i. Accrediting organizations to carry out their accrediting function, with the guarantee that the identity of the student shall be protected.
- j. Appropriate persons in connection with an emergency, if knowledge of such information is necessary to protect the health or safety of a student or other persons.
- k. Comply with a judicial order or subpoena, but the University should make a reasonable effort to notify the student first. The sufficiency of the order or subpoena will be determined by the University Legal Counsel and that office shall send the required notice to the student.

B. Disclosure Requiring Prior Consent

1. Except as listed in III. A. above, all requests for student information other than directory information must be accompanied by a written consent of the student.

2. The written consent required by this section must be signed and dated by the student giving the consent and shall include (a) a specification of the records to be disclosed, and (b) the party or parties to whom the disclosure may be made.
3. When the disclosure is made pursuant to this section, the appropriate recordkeeping office shall, upon request, provide a copy of the records which are disclosed to the student.
4. Student information will not be released to parents of students without the student's permission.

C. Disclosure of Directory Information

Directory information pertaining to students may be released by the University at any time provided that it publish the definition at least once each academic year in the campus student newspaper or other designated publication with wide circulation, and the individual student is given a reasonable period of time to inform the University in writing, through Admissions and Records, that they do not wish such information about themselves be released without their prior consent. Admissions and Records will be responsible for identifying or deleting all information which the student desires not to be released outside the University and for informing all University recipients of that information that such information is not to be released. The student must request deletion of information each year.

The procedural requirements of this section do not apply to the disclosure of directory information from the educational records of an individual who is no longer in attendance at the University. Thus, the University (or appropriate recordkeeping office) is not required to give public notice of the above to former students.

All recipients of student information will be bound by this policy. Lists of student information are never knowingly provided to any requesting party for a commercial or political purpose. If a student directory is published, it shall be equally available to all.

D. Records of Disclosure Made

Records of disclosure are not required to be kept in the record of a student when the disclosure is initiated by the student themselves.

The University may disclose personally identifiable information from the education records of a student only on the condition that the party to whom the disclosure is made will not further disclose the information without the student's written consent, except in the case of disclosure of directory information.

The University shall, except for the disclosure of directory information, inform the party to whom disclosure is made of the obligation to receive the student's consent before further disclosure to other parties.

E. Waiver of Right to Inspect and Review Education Records

1. The student may waive their right to inspect and review education records. The waiver, in order to be valid, must be in writing and signed by the student. The University (or each appropriate recordkeeping office) may not require a waiver of rights but it may request such a waiver.
2. If a student has waived their right to see confidential letters of recommendation placed in their record after January 1, 1975, the waiver will be effective only if (a) the applicant or student is, upon request, notified of the names of all individuals providing the letters or statements; (b) the letters or statements are used only for the purpose for which they were originally intended, and (c) such waiver is not re-

quired by the University as a condition of admission to or receipt of any other service or benefit from the University.

3. A waiver may be revoked, but the revocation must be in writing and signed by the student. Revocation of waiver will affect only documents received after its execution.

IV. Identification and Description of Student Information

A. Academic Records

Admissions and Records retains the official academic record of a student. It is a cumulative history of a student's admission, registration, and academic participation and performance. Certain biographic and demographic information is also kept for identification for enrollment and research-related purposes. For information concerning these records contact the director of Admissions and Records.

Academic records may also be maintained in academic units, departments, and divisions. For information concerning these records contact the head of the academic unit, department, or division in question. Institutional Research and Studies also maintains some academic records.

B. Financial Records

Offices within the Business area maintain certain financial records which relate to payment and accounting of tuition, fees, and other charges. They also maintain records which record student loans and grants. For information concerning these records, contact the Bursar's Office.

For billing purposes, Admissions and Records maintains a record of financial aid received and tuition and fees paid. For information concerning these records, contact the director of Admissions and Records.

Financial Aid maintains records of student receiving loans, grants, and aid along with scholarship information and some academic information. It also maintains records pertinent to student employment including the family financial statement. For information concerning these records, contact the director of Financial Aid.

Housing maintains records of housing accounts. For information concerning these records, contact the director of Housing.

C. Medical/Counseling/Clinical Center Records

The Health Service Clinic maintains medical records of students who have required medical assistance through Student Health Programs. Only information pertinent to the health of the individual is contained therein. For information concerning these records, contact either the director of Student Health Programs or the medical chief of staff of the Health Service Clinic.

The Counseling Center maintains records pertinent to services rendered by that office. For information concerning these records, contact the coordinator of the Counseling Center.

The Clinical Center maintains records pertinent to services rendered by that office. For information concerning these records, contact the director of the Clinical Center.

D. Disciplinary Records

Student Affairs maintains records of disciplinary action which has been taken against a student with documentation pertaining thereto. That office also maintains only the academic information necessary to permit its functioning. For information concerning these records, contact the dean of students.

E. Placement Records

The University Career Services creates a record for those persons who wish to avail themselves of its services, with student's voluntary partici-

pation. This information is distributed to potential employers. It consists of self-completed resumes and various personal references. For information concerning these records, contact the director of the University Career Services.

V. Access to Records

A. Right to Inspect or Review Educational Records

1. The student has the right to physically review his/her records in the presence of a designated University representative.
2. Requests for review may be required to be submitted in writing to the appropriate office.
3. That office shall comply with the request within a reasonable time, but in any case, compliance shall be no more than thirty (30) days after the receipt of the request.
4. Where necessary, interpretation of the record shall be provided by qualified University personnel.
5. Original records cannot be removed from University premises. A copy will be provided if requested, but only if not providing a copy would preclude review of the educational records by the student.
6. Copies of transcripts from other educational institutions will be provided only if the original source of those transcripts is no longer available or going to the original source would cause undue hardship as determined by this University.

B. Limitations on Right to Inspect or Review

1. The student may not inspect the following records:
 - a. Financial records and statements of their parents.
 - b. Confidential letters or materials placed in records before January 1, 1975 so long as they were solicited with an understanding of confidentiality and are used only for the purpose for which they were written.
 - c. Confidential letters of recommendation and confidential statements of recommendation placed in the education records of the student after January 1, 1975, are subject to the student's right to inspect and review unless the student has signed a written waiver.
2. Reports that involve two or more persons may be censored to protect the identity of the other person(s).

C. Administrative Hold on University Records

On occasion it is necessary for a University to place an administrative hold on a student's ability to request a transcript, to register for a subsequent term, to reenter the University after a period of attendance interruption, or to be officially graduated.

In cases where an administrative hold has been placed on a student's record, the student may view such records but will not be able to obtain a copy of said record until the administrative hold is removed through the appropriate University channels.

VI. Challenging Contents of a Student's Educational Record

A. Purpose

A student has the right to challenge the content of a record on the ground that they believe it is inaccurate, misleading, or otherwise in violation of their privacy or other rights and to have inserted in the record their written explanation of its contents. Academic grade review procedures are covered in the University Catalog and/or such particular academic unit, department or division and not by this policy.

B. Procedure

To initiate such a challenge, the student shall, within sixty (60) days after they have inspected and reviewed the record in question for the first time, file with the University office responsible for maintaining such record a written request for correction, on a form specified by the University. Within thirty (30) days following receipt of such request, the head of such office, or their representative, shall review the record in question with the student and either order the correction or deletion of such alleged inaccurate, misleading, or otherwise inappropriate data as specified in the request or notify the student of the right to a hearing at which the student and other persons directly involved in the establishment of the record shall have an opportunity to present evidence to support or refute the contention that the data specified in the request are inaccurate, misleading, or otherwise inappropriate.

C. Hearing

The student shall be given written notice sent to their last known address of the time and place of such hearing not less than ten (10) days in advance. The hearing will be conducted by a University representative who does not have a direct interest in the outcome. The student might well challenge the hearing officer. Any disagreement regarding the hearing officer will be resolved by the appropriate Vice President.

The student shall have the right to attend the hearing, to be advised by an individual of their choice at their own expense, including an attorney, and to call witnesses in their behalf. The student shall be notified in writing of the decision within ten (10) days following the hearing or within five (5) days of a decision without a hearing. Such decision is final. The decision reached shall be based solely upon the evidence presented at the hearing and shall include a summary of the evidence and reasons for the decision.

(Note: A hearing may not be requested by a student to contest the assignment of a grade; however, a hearing may be requested to contest whether or not the assigned grade was recorded accurately in the education records of the student.)

VII. Destruction of Records

The University may destroy education records when they are no longer necessary, with the following limitations:

1. Education records may not be destroyed if there is an outstanding request to inspect and review them.
2. Explanations placed in the record by the student and the record of disclosure of information must be maintained as long as the education record to which it pertains is maintained.

VIII. Right to File Complaints

- A. If the student thinks his or her rights have been violated, he or she should first file a complaint with the head of the office which maintains the records in question.
- B. After exhausting all the internal remedies available within the University, if the student still thinks his or her rights have been violated, written complaints can be filed with

The Family Educational Rights and Privacy Act Office
Department of Education
330 Independence Avenue S.W.
Washington, D.C. 20201

The office shall notify the complainant and the University of the receipt of the complaint and an investigation will follow.

Policy Accommodating Religious Observances of Students

Admissions/Registration

The University's admissions process provides ample opportunity for admission and registration activities without conflicting with religious holidays and observances. However, students may receive another appointment when an appointment for admission counseling, or an appointment for academic advisement, or an appointment for registration for classes falls on a date or at a time that would conflict with the student's observances of major religious holidays. The individual student must notify in writing the appropriate admissions officer or academic adviser of the conflict with the student's observance of the religious holiday. That notification shall be made immediately after the student's receipt of the appointment or at least five (5) work days prior to the appointment time, whichever is later.

Class Attendance

Students absent from classes because of observances of major religious holidays will be excused. Students *must notify the instructor at least three regular class periods in advance of an absence from class for a religious holiday* and must take the responsibility for making up work missed.

Examinations

Instructors are requested not to schedule class examinations on dates that would conflict with major religious holidays. In the event an examination must be scheduled on a date that conflicts with a student's required observance of a religious holiday, the student should be given reasonable opportunity to make up the examination. It is the student's responsibility to notify the instructor of the class when the examination will be missed. That notification must occur at least three regular class meeting periods in advance of the absence or at the time the announcement of the examination is made, whichever is later.

Grievance Procedure

A student who believes that he or she has been unreasonably denied an educational benefit due to his or her religious belief or practices may petition in writing as follows:

Cases involving class attendance or class examinations that are unresolved at the class instructor level may be appealed by the student by filing a petition in writing, within thirty calendar days of the incident being appealed, to the chair or coordinator of the department or program in which the course is offered. In the event the case is not resolved to the student's satisfaction at the department/program level within five (5) working days after the chair's receipt of the petition, the student may petition in writing to the dean of the school or college to which that teaching department or program reports. The student's petition to the school or college level must be filed with the dean within five (5) working days of the decision at the department level. Should the case not be resolved to the student's satisfaction at the school or college level within five (5) working days of the petition filing at that level, the student may petition the Vice President for Academic Affairs. If the student is still not satisfied at that level within the five working day time period, he or she may petition to the Chancellor within another five working days. Decisions of the Chancellor may be appealed to the President, and to the Board of Trustees if necessary, in accordance with Bylaws of the Board of Trustees.

In cases involving admissions, *the grievance process should follow the time frames described above*, with the initial petition being filed with the Director of Admissions and Records, which is the only filing point prior to the Vice Chancellor for Academic Affairs.



Index

A

Abbreviations, degree, 6
 Absence reports, 496
 Academic advisement, 25
 Academic honors, 46
 Academic load, 38
 Academic programs, 96
 Academic progress standards for financial aid, 14
 Academic requirements, college of science, 86
 Academic requirements, liberal arts, 83
 Access to student records, 512, 517
 Accountancy, school, 97
 Accounting, 97
 Accreditations, 5
 ACT scores, 16, 18
 Acting, 466
 Adding classes, 26
 Additional bachelor's degree, 45
 Additional fees, 31
 Address, 34
 Administration of justice, 100
 Administration, central, vi
 Administration, SIUC, vi
 Administrative assistant specialization, 375
 Administrative services training specialization, 477
 Admission application, 16
 Admission documents, 16
 Admission of former students, 22
 Admission of freshman, 17
 Admission of special categories of students, 21
 Admission of transfer students, 19
 Admission of transient students, 25
 Admission of veterans, 24
 Admission policies, requirements, procedures, 16
 Admission policy, college of education, 77
 Admission, international students, 21
 Admission, second chance program, 22
 Admission, unclassified, 24
 Admissions, tuition and academic information, 15
 Adult education courses, 91
 Adult student, 509
 Advanced technical studies, 104
 Advertising/integrated marketing communications specialization, 322
 Advisement center, pre major, 90
 Advisement, academic, 25
 Aerobics, 500
 Aerospace studies, 106
 Affiliations and accreditations, 5
 Affirmative action policy, iii
 African studies minor, 109
 Aging studies minor, 109
 Agribusiness economics, 110

Agribusiness management, 110
 Agricultural education and information, 278
 Agricultural finance, 110
 Agricultural marketing, 110
 Agricultural mechanization specialization, 278
 Agricultural production specialization, 278, 280
 Agricultural resource management option, 111
 Agricultural technologies specialization, 280
 Agriculture general, 278
 Agriculture, college, 70
 Agriculture, courses, 114
 Agriculture, general. See genneral agriculture
 Agronomy, 403
 Air traffic control, 157
 Aircraft maintenance specialization, 162
 Allied health careers courses, 115
 Alumni services, 504
 American chemical society certification, 174
 Anatomy, 400
 Animal science, 115
 Anthropology, 119
 AP (advanced placement program), 40
 Apparel design specialization, 477
 Applied arts, 124
 Applied economics and agribusiness option, 111
 Applied sciences and arts, college, 71
 Applied sciences and arts, courses, 125
 Applied technology faculty, 126
 Applying for admission, 16
 Applying for financial aid, 13
 Aquatics, minor, 387
 Archaeology, 119
 Architectural studies, 126
 Arena, SIU, 498
 Armed forces personnel, 510
 Army military science, 130
 Art and design, 132
 Art education specialization, 134, 140
 Art history specialization, 138
 Asian studies, 149
 Associate degree, 43
 Associate degree requirements, 44
 Astronomy, 396
 Athletic training specialization, minor, 386
 Athletics, 499
 Attendance, 26
 Attorney, student, 30
 Audiology, 191
 Audit, 35
 Auditorium, 498
 Australia exchange program, 93
 Austria, international studies, 93
 Automotive technology, 149

Average requirements, 44
 Aviation electronics specialization, 163
 Aviation flight, 154
 Aviation maintenance technology, 156
 Aviation management, 157
 Aviation management and flight faculty, 161
 Aviation technologies, 161

B

Baccalaureate average requirements, 44
 Baccalaureate degree requirements, 44
 Baccalaureate degree, second, 45
 Baccalaureate degree, three year, 45
 Baccalaureate hour requirements, 44
 Baccalaureate residence requirements, 44
 Bachelor degree, 43
 Band, 363
 Basic skills, 90
 Billing address, 34
 Biochemistry, 167
 Biochemistry courses, 167
 Biochemistry specialization, 175
 Biological sciences, 167
 Black American studies, 169
 Bona fide residence, 508
 Bookstore, 497
 Botany, 412
 Broadcasting service, 499
 Brush towers, 11
 Business and administration courses, college, 171
 Business and administration major, 171
 Business and administration, college, 73
 Business economics, 173
 Business education specialization, 475
 Business specialization, chemistry, 175
 Business, agriculture. See agribusiness economics

C

Calculation of gpa, 38
 Calendar, university 1997 - 98, viii
 Calendar, university 1998 - 99, vii
 Campus communications media, 499
 Campus life, 490
 Campus living, 10
 Campus map, iv
 Campus ministries, 500
 Campus parking, 12
 Campus safety, 495
 Campus services, 497
 Campus visitors, 9
 Cancellation waiver, 33
 Capstone description, 60

Capstone option, 60
 Capstone requirements, 61
 Capstone, applying, 61
 Career counseling, 502
 Career preparation program, 90
 Career services, 502
 Cartography and geographic information management, 283
 Catalog year, ii
 Center for basic skills, 90
 Central administration, vi
 Ceramics specialization, 134
 Certification, chemistry, 174
 Certification, plant and soil science, 407
 Changing academic units, 26
 Changing majors, 26
 Changing of grades, 36
 Chapter reference guide, ix
 Chemistry and biochemistry, 174
 Chemistry certification, 174
 Child and family services specialization, 201
 Child care, 494
 Childhood, early, 201
 Chinese courses, 264
 Chinese minor, 257
 Cinema and photography, 178
 Civil engineering, 81, 183
 Class standing, 38
 Classes, dropping, 27
 Classical civilization minor, 258
 Classics, 257
 Classics courses, 264
 CLEP, college level examination program, 41
 Clinical center, 504
 Clothing and textiles, 477. *See* workforce education and development
 Coaching. *See* physical education
 Coaching, minor, 388
 College level examination program (CLEP), 41
 Commercial graphics courses, 188
 Communication disorders and sciences, 191
 Community health education specialization, 297
 Comparative literature minor, 193
 Computer engineering specialization, 223
 Computer science, 193
 Confidentiality of information, medical, 502
 Conservation, 482
 Construction technology, 199
 Continuing education, 91
 Coop programs, 150
 Cooperative education programs offered, 151
 Correspondence credit, 39
 Costs, 29
 Council on international educational exchange, 93
 Counseling center, 501
 Course attendance, 26
 Course drops, 27

Course fees, 96
 Course load, 38
 Course numbering system, 96
 Course pattern requirements, 17
 Course registration, 26
 Course requirements, 45
 Course sequence, 82
 Course withdrawal, 27
 Court and conference reporting specialization, 375
 Creative writing specialization, 239
 Creative writing specialization, english minor, 240
 Credit by means other than classroom attendance, 39
 Credit for involvement, 493
 Credit for military, 20
 Credit for military experience, 40
 Credit for work experience, 43
 Credit, unit, 39
 Credit-free activities, 92
 Criminal justice. *See* administration of justice
 Curricula, 96
 Curriculum and instruction, 200

D

Daily Egyptian, 499
 Dantes, 20, 40
 Deadline for withdrawal, 27
 Dean's list, 46
 Death notices, 496
 Deferment of tuition and fees, 33
 Definitions of terminology, 508
 Degree abbreviations, 6
 Degree requirements, 44
 Degree requirements, education, 78
 Degrees offered, 43
 Dental hygiene, 210
 Dental services, 501
 Dental technology, 214
 Dentistry, pre, 86
 Departmental honors, 46
 Design. *See* art and design
 Determination of residency status, 508
 Dial-a-nurse, 501
 Dietetics specialization, 250
 Disabled student services, 503
 Disciplinary studies, 54
 Disclosure of academic records, 513
 Division of continuing education, 91
 Documents required for admission, 16
 Drawing specialization, 134
 Dropping classes, 26, 27
 Dual degree, 45

E

Early childhood, 200. *See* curriculum and instruction
 Early childhood certificate, 80
 Early warning system, 496
 East Asia courses, 266
 East Asian civilization. *See* foreign languages and literatures
 East Asian civilization minor, 258
 Economics, 217

Education courses, 220
 Education training and development specialization, 476
 Education, college, 76
 Educational psychology courses, 221
 Egyptian, Daily, 499
 Electrical engineering, 81, 222
 Electrical engineering technology specialization, 234
 Electronics management, 226
 Electronics technology specialization, 228
 Elementary education, 202. *See* curriculum and instruction
 Eligibility and fees, 501
 Emancipated minor, 509
 Emerging leaders program, 493
 Engineering courses, 233
 Engineering technology, 81, 234
 Engineering, college, 80
 English, 238
 English minor, teaching specialization, 240
 Entrepreneurship specialization, 330
 Environmental chemistry specialization, 175
 Environmental planning, 283
 Environmental sciences, 482
 Environmental studies minor, 245
 Environmental studies specialization, 403
 Equine science specialization, 117
 Equine studies, minor, 117
 Evaluation of transfer credit, 20
 Evening and weekend program, 91
 Examination, proficiency, 42
 Examinations, AP and CLEP, 40
 Exceptions to motor vehicle regulations, 12
 Exchange programs, 93
 Exercise science and physical fitness specialization, 387
 Extended medical care benefit fee refund, 502
 Extended medical care benefit plan (student insurance), 502
 Extension credit, 39

F

Faculty, 5
 Failure to disclose, 20
 Farm management, 110
 Fees, 29
 Fibers/weaving specialization, 135
 Finance, 245
 Financial aid application, 13
 Financial aid opportunities, 13
 Financial aid programs, 12
 Financial institutions specialization, 245
 Financial management specialization, 245
 Fire science management, 248
 First year experience, 490
 Fisheries management, 482
 Flight, 154
 Focus statement, 4

Food and nutrition, 250
 Foreign language and international trade, 253
 Foreign languages and literatures, 254
 Foreign languages and literatures courses, 263
 Forensic chemistry specialization, 175
 Forest resources management specialization, 273
 Forestry, 272
 Forgiveness policy, 44
 Former students, admission of, 22
 Foundation courses, 53
 France exchange program, 93
 Fraternal education, 492
 French, 258
 French courses, 266
 French minor, 259
 Freshman standing, 38
 Freshmen admission, 17
 Full-time attendance, 38
 Funeral service, 358
 Future scholars program, 90

G

GED (general educational diploma), 16
 General agriculture, 278
 General design specialization, 141
 General information, 1
 General motors automotive service educational program (asep), 150
 General studio specialization, 139
 General/graduate school specialization, 239
 Geography, 283
 Geography general, 283
 Geology, 287
 German, 259
 German courses, 268
 Germany exchange program, 93
 Government, 417
 GPA computation, 38
 Grade changes, 36
 Grade points, 38
 Grade regulation, 35
 Grading system explanation, 35
 Graduate school, 86
 Graduation, 47
 Graduation appeals, 47
 Graduation application, 47
 Graduation attendance, 47
 Graduation fee, 47
 Graduation procedures, 47
 Graduation requirements, 47
 Grants, 13
 Great Britain exchange program, 93
 Greek. *See* classics
 Greek minor, 257
 Greek organizations, 492
 Greek row, 11
 Group visits, 9
 Guardian, 509
 Guitar, 363

H

Handicapped student services, 503

Harpichord, 363
 Health care management, 293
 Health care professions faculty, 295
 Health education, 296
 Health education and recreation faculty, 442
 Health program, student, 500
 Helicopter specialization, 164
 High school advanced placement program, 40
 High school course pattern requirements, 17
 High school student admission, 24
 History, 301
 History of the university, 2
 Home economics specialization, 476
 Honors, 46
 Honors program, 471
 Horticulture, 403
 Hotel, restaurant and travel administration specialization, 250
 Hour requirements, 44
 Housing for married students, 11
 Housing, married, 11
 Housing, on campus, 10
 Housing, privately owned facilities, 11

I

IAI effective date, 63
 IAI general education core courses, 65
 IAI major course listings, 67
 ID's, 27
 Identification numbers for students, 27
 Illinois articulation initiative, 64
 Immunization policy, 511
 Immunizations, 501
 Individual opportunities, 94
 Individualized learning, 92
 Individualized learning program, 419
 Individualized two plus two program, 90
 Industrial design specialization, 135, 141
 Industrial technology, 81, 307
 Information management systems, 311
 Information systems technologies, 313
 Installment payment plan, 32
 Installment plan for tuition, 32
 Insurance, medical, 502
 Integrative studies, 56
 Intercollegiate athletics, 499
 Interdisciplinary courses, 57
 Inter-Greek council, 492
 Interior design, 317
 International development, 505
 International programs and services, 504
 International public service specialization, 257
 International student admission, 21
 International students, 504
 International studies, 93

Internships in Washington, 94
 Interpersonal communication specialization, 460
 Intramural-recreational sports, 500
 Issuance of transcripts, 48

J

Japan, 92
 Japan exchange program, 93
 Japan international studies, 93
 Japanese courses, 269
 Japanese, minor, 261
 Joint certification, 457
 Journalism, 319
 Judicial affairs, 495
 Junior standing, 38

K

Keyboard, 363

L

Landscape horticulture, 403
 Late registration fee, 31
 Latin. *See* classics
 Latin minor, 258
 Law, school, 88
 Learning disabilities certification, 456
 Legal assistant specialization, 375
 Leisure services management, 440
 Liberal arts, college, 82
 Liberal arts, courses, 325
 Library affairs, 87
 Linguistics, 326
 Listener's permit program, 92
 Load, academic, 38
 Loans, 13
 Local address, 34

M

Magic, 490
 Magnetic resonance imaging/computed tomography option, 437
 Majors, 6
 Majors, changing, 26
 Management, 329
 Management information systems specialization, 330
 Management specialization, 330
 Manufacturing technology specialization, 307
 Marketing, 333
 Married student, 509
 Married student housing, 11
 Mass communication and media arts courses, 336
 Mass communication and media arts, college, 84
 Master degree, 43
 Mathematics, 337
 Mechanical engineering, 81, 346
 Mechanical engineering and energy processes, 346
 Mechanical engineering technology specialization, 235
 Media and publications, 492

Medical assistant specialization, 375
 Medical biochemistry, 167
 Medical diagnostic sonography (ultrasound) option, 436
 Medical fee refund, 502
 Medicine, pre, 86
 Medicine, school, 89
 Medprep, 351
 Meeting university core curriculum requirements, 51
 Mental retardation certification, 456
 Metalsmithing specialization, 135
 Microbiology, 351
 Military experience credit, 20, 40
 Military programs, 92
 Mining engineering, 81, 355
 Mining technology specialization, 308
 Ministries, 500
 Minor, 509
 Minor student, 509
 Minors, 6
 Mission statement, 3
 Molecular biology, 167
 Moog cooperative program, 151
 Mortuary science and funeral service, 358
 Multicultural applied experience courses, 59
 Multicultural applied experience option, 59
 Multicultural courses, 56
 Multicultural programs and services, 493
 Museum, 498
 Museum studies minor, 361
 Music education specialization, 364
 Music theater specialization, 366
 Music theory / composition, 364

N

Nakajo, SIUC, 92
 Negative quality points, 38
 Netherlands exchange program, 94
 News-editorial specialization, 322
 Newspaper, 499
 Niigata, Japan, SIUC, 92
 Non-traditional student services, 494
 Nurse program, 501
 Nursing, 373

O

Off-campus credit, 91
 Off-campus housing, 11
 Office systems and specialties, 373
 Ombudsman, 503
 On-campus housing, 10
 Open houses, 9
 Open studies specialization, music, 366
 Operations management specialization, 330
 Option, capstone, 60
 Optometry, pre, 86
 Orchestra, 363
 Organ, 363
 Organizational communication specialization, 460

Outdoor recreation resources management specialization, 274
 Outpatient care, 501

P

Painting specialization, 135
 Paralegal studies for legal assistants, 379
 Parent, 509
 Parking on campus, 12
 Pass/fail, 35
 Pass/fail grading system, 36
 Pattern requirements, 17
 Payment of tuition and fees, 31
 Pedagogy, piano specialization, 364
 Penitentiary, 510
 Performance specialization, music, 363
 Performance studies specialization, 460
 Permanent address, 34
 Persuasive communication specialization, 460
 Pharmacy, 501
 Pharmacy, pre, 86
 Philosophy, 381
 Photography, 178
 Photojournalism specialization, 322
 Physical education, 385
 Physical therapist assistant, 392
 Physical therapy, pre, 86
 Physician assistant, 394
 Physician assistant, pre, 86
 Physics, 396
 Physiology, 400
 Piano, 364
 Plant and soil science, 403
 Plant biology, 412
 Podiatry, pre, 86
 Police science. *See* administration of justice
 Political science, 417
 Positive and negative quality points, 38
 Power of attorney, 496
 PR grade, 36
 Pre-dentistry, 482
 Pre-law, college of liberal arts, 84
 Pre-major advisement center, 90
 Pre-medicine, 482
 Pre-physician assistant, 423
 Preprofessional, 86
 Preprofessional programs, 45
 Preprofessional specialization, english, 239
 Preprofessional specialization, english minor, 240
 Preschool/primary specialization, 200
 Pre-veterinary, 482
 Pre-veterinary specialization, 117
 Previews, SIUC, 9
 Printmaking specialization, 136
 Probation, scholastic, 37
 Production specialization, animal science, 116
 Professional business core, college of business and administration, 75

Professional education experiences, 424
 Professional education sequence, 79
 Proficiency examination, 42
 Program changes, 26
 Program eligibility requirements, 22
 Program flexibility, 39
 Programs, academic, 96
 Progress for financial aid, 14
 Project ahead, 490
 Project step, 490
 Pro-rata refund schedule, 28
 Psychology, 426
 Public relations specialization, 460
 Publications, 492

Q

Quality hours, 38
 Quality points, 38

R

Radiation therapy option, 436
 Radio, 499
 Radiologic sciences, 435
 Radio-television, 431
 Rainbow's end child development center, 494
 Reading course numbers, 96
 Readmission policy, engineering, 82
 Records, student access and release, 513
 Recreation, 439
 Recreational sports, 500
 Reentry students, 22
 Re-entry women's program, 494
 Reference guide, ix
 Refund, 33
 Refund of fees, 30
 Refunding of medical fees, 502
 Refunding of tuition, 28
 Registered student organizations program, 491
 Registration, 26
 Registration fee, 31
 Rehabilitation services, 443
 Release of student information, 512
 Religious observances of students, 519
 Repeat policy, 20, 36
 Residence halls, 10
 Residence requirements, 44
 Residency determination, 508
 Residency status, 508
 Resource economics, 110
 Respiratory therapy technology, 445
 Retailing specialization, 477
 Retention policy, education, 77
 ROTC, army, 130
 Rural development, 110
 Russian, 261
 Russian courses, 269

S

Saluki peers, 493
 Saluki volunteer corps, 494
 SAT scores, 16, 18

Scholarships, 13
 Scholastic achievement high, 46
 Scholastic honors day, 46
 Scholastic probation and suspension system, 37
 Scholastic standing, 36
 School health education specialization, 297
 School of law, 88
 School of medicine, 89
 Science and pre-veterinary specialization, 117
 Science, college, 85
 Science, courses, 448
 Sculpture specialization, 136
 Second bachelor degree, 45
 Second chance program, 22
 Secondary school teaching, 203
 Selective admissions program, 18
 Senior citizen courses act, 14
 Senior hours, 44
 Senior standing, 38
 Services to students with disabilities, 503
 Seven year rule, ii
 Shryock auditorium, 498
 SIUC broadcasting service, 499
 SIUC parents, 491
 Social security number, 27
 Social studies, 204
 Social work, 448
 Sociology, 451
 Sophomore standing, 38
 Southern Illinois regional career preparation program, 90
 Southern Illinois university, 2
 Spanish, 262
 Spanish courses, 270
 Special collections, 87
 Special education, 455
 Speech communication, 459
 Speech pathology, 191
 Sport medicine office, 500
 Standard elementary certificate, 80
 Standard high school certificate, 80
 Standard special certificate, 80
 Statistics. See mathematics
 Student activities, 490
 Student adult, 509
 Student center, 497
 Student death notices, 496
 Student development, 490
 Student employment, 13
 Student exchange program, 93
 Student fees, 29, 30
 Student health programs, 500
 Student identification numbers, 27
 Student information, release of, 513
 Student, insurance, 502
 Student, judicial affairs, 495
 Student, married, 509
 Student, minor, 509
 Student organizations, 491
 Student orientation, 490
 Student recreation center, 500
 Student support services, 91
 Student teacher placement, 425
 Student teaching, 424

Student volunteer and community service-learning programs, 494
 Student withdrawal, 28
 Study abroad, 505
 Study abroad programs, 92
 Submission of transcripts, 20
 Subrogation clause, 502
 Substitution courses, core curriculum, 52
 Suspension, 37
 Switzerland exchange program, 94

T

Table of contents, v
 Teacher certification, 77, 79
 Teacher education program, 77, 424, 426
 Technical and resource management faculty, 106
 Technology, 465
 Television, 431, 499
 Tesol, 329
 Testing, 503
 The university, 2
 Theater, 466
 Theater, music specialization, 366
 Therapeutic recreation specialization, 440
 Thompson point, 11
 Three-year baccalaureate degree program, 45
 Toefl examination, 21
 Tool and manufacturing technology, 469
 Towers, brush, 11
 Transcript submission, 20
 Transcripts fee, 48
 Transcripts issuance, 48
 Transfer credit, 20
 Transfer student admission, 19
 Transfer student requirements, 19
 Transfer students and university core, 62
 Transfer students, engineering, 82
 Transferring from one major to another, 26
 Transient students, admission, 25
 Transitional programs, 496
 Travel, 250
 Travel/study program, 93
 Trustees, board of, vi
 Tuition and fee refund, 33
 Tuition and fees, 29
 Two-year cooperative education, 150

U

Ulysses S. Grant association, 88
 Unclassified admission, 24
 Undergraduate curricula and faculty, 96
 Undergraduate library, 87
 Undergraduate student withdrawals, 496
 Unit of credit, 39
 United States citizenship, 510
 University, 471
 University bookstore, 497

University calendar 1999 - 2000, viii
 University calendar 1998 - 99, vii
 University career services, 502
 University core curriculum, 50
 University core curriculum courses, 53
 University core curriculum goals, 50
 University core curriculum requirements, 50
 University core curriculum substitutions, 52
 University employees, 510
 University honors program, 46, 471
 University housing, 10
 University museum, 498
 University park, 11
 University studies, 473
 University studies degree program, 84
 University history, 2
 Upward bound, 90
 Utrecht network, 93

V

Veterans, admission of, 24
 Visitors to campus, 9
 Visual communication specialization, 136, 142, 418
 Vocational teacher development specialization, 477
 Voice, 363
 Volunteer corps, 494

W

Waiver of cancellation, 33
 Washington, internship, 94
 Weaving, 135
 Wellness center, 501
 Wildlife management, 482
 Withdrawal from courses, 27
 Withdrawal from the university, 28
 Women's night safety transit, 495
 Women's services, 501
 Women's studies, 474
 Work experience credit, 43
 Workforce education and development, 475
 World literature specialization, English minor, 240
 Writing center, 91
 WSIU, 499
 WUSI, 499

Z

Zoology, 482





MORRIS LIBRARY-SIUC



3 1911 00629 9714